Power Monitor
POWER MONITOR 51A

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
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www.weidmueller.com

Power Monitor 51 A
Electrical parameters have to be measured and visualised to optimise your machines' and systems' energy requirements. Only this allows analysis and, subsequently, the achievement of savings and the establishment of an energy management system. An easy-to-install solution is now available from Weidmüller. When implementing an energy management system according to ISO 50001, the Power Monitor 51A is one of the modules necessary to meet the requirements of recording, displaying and analysing power flows. Existing systems can also be quickly retrofitted. All relevant electrical parameters within a 3-phase network can be visualised: measurement of current, voltage, power, energy consumption, efficiency, apparent power and reactive power. Measurement is possible using a conventional current transformer. The four-line display (LCD), which is larger than average, allows all important measurement parameters to be read at a glance. A large membrane keyboard facilitates reliable navigation.

- Weidmüller's proven connection system
- Measurement of the neutral conductor current
- High resolution of the current measurement
- THD, harmonic distortion
- Two digital inputs
- Two digital outputs
- Extensive computing and analysis functions

General ordering data

Type	POWER MONITOR 51A
Order No.	1470260000
GTIN (EAN)	4050118276756
Qty.	1 pc(s).

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Technical data

Dimensions and weights

Width	96 mm	Height	96 mm
Depth	68 mm	Net weight	386 g

Temperatures

Humidity	35 % to 85 % relative humidity level	Humidity at operating temperature	35...85 % rel. humidity, no condensation
Operating temperature	-25 °C...55 °C	Storage temperature	-25 °C...70 °C

Output

Type	Evaluation data via MODBUS/RTU (RS485, max 1,200 bps)

Display

Type	4-row, 5-digit LCD 7-segment display, 8 mm, grey-blue	Display range	0.000 - 9,999,999.9 kVAh, 0.000 - 9,999,999.9 kWh, 0.000 - 9,999,999.9 kvarh
Display value	Apparent power, Effective power, Reactive power, Power factor, Voltage, Current, Frequency, Temperature, Voltage unbalance, Current unbalance, THD-I, THD-U, Voltage harmonic, Current harmonic		

General data

Accuracy	Class 0.5 S, 0.5%	Configuration	Using free Windows software
Harmonics	Yes, 31th	Input/Output	32K byte+RTC, Alarm Logging, Max/Min
Power consumption	5 VA (240 V AC @ 25 °C), 3 W (240 V DC @ 25 °C), ≤30 A (240 V AC/DC @ 25°C)	Power consumption, max.	6 W
Power requirements	Yes	Rate	5
Storage	32 KB + RTC, Alarm log	Stored data for each 10 values	Voltage drop, Undervoltage, Undercurrent, Surge voltage, Surge current
Stored data for each month	Current, Voltage, Power, Power factor, Frequency, Unbalanced voltage, Unbalanced current	Type of connection	Removable terminal block, Screw connection
Unbalanced	Yes	Vibration	10 - 150 Hz (7.5 min) amplitude: 0.075 mm, 10 - 55 Hz (1 min) amplitude: 0.375 mm
low voltage network	TN-C, TN-C-S, TT nur für L-N		

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Technical data

Insulation coordination

Pollution severity	2	Surge voltage category	II

Connection data

Type of connection	Removable terminal block, Screw connection	Tightening torque, min.	0.4 Nm
Tightening torque, max.	0.5 Nm	Clamping range, rated connection, min.	0.13 mm²
Clamping range, rated connection, max.	4 mm²	Wire connection cross section AWG, min.	AWG 30
Wire connection cross section AWG, max.	AWG 12	Wire cross-section, solid, min.	0.2 mm²
Wire cross-section, solid, max.	4 mm²	Wire connection cross-section, finely stranded, min.	0.2 mm²
Wire connection cross section, finely stranded, max.	4 mm²	Wire connection cross-section, finely stranded with wire-end ferrules and plastic collars DIN 46228/4, rated connection, max.	4 mm²
Conductor cross-section, flexible, AEH (DIN 46228-1), min.	0.2 mm²	Conductor cross-section, flexible, AEH (DIN 46228-1), max.	0.4 mm²
Pitch in mm (P)	5.08 mm		

Classifications

ETIM 5.0	EC001438	ETIM 6.0	EC001438
UNSPSC	39-12-15-35	eClass 6.2	27-20-03-90
eClass 7.1	27-37-18-01	eClass 8.1	27-37-18-01
eClass 9.0	27-37-18-01		

Product information

Descriptive text technical data	Further information and safety instructions can be found in the Power Monitor manual.

Approvals

Approvals	
ROHS	Conform

Downloads

Manual	German (PDF), English (PDF)
Package insert	English (PDF)
Quick reference guide	Operation with S-/E-Converter; English (PDF)
Software	Power Monitor Manager; vers. 1.20 (EXE)
Declaration of Conformity	German (PDF)
Tools	Description ModBus registers (XLS)

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Drawings

Measurments items

Item		Unit	Data display range
Instantaneous power	Active	kW	-99999 to 99999
	Reactive	kvar	
	Apparent	kVA	
Integral power (import)	Active	kWh	0.000 to 9999999.9
	Reactive	kvarh	
	Apparent	kVAh	
Integral power for each time zone (4-zone) (import)	Active	kWh	0.000 to 9999999.9
	Reactive	kvarh	
	Apparent	kVAh	
Integral power for each time zone (4-zone) (export)	Active	kWh	0.000 to 9999999.9
	Reactive	kvarh	
Current		A	0.000 to 99999
Voltage		V	0.000 to 99999
Power factor			-1.000 to 1.000
Frequency		Hz	0.00 to 99.99
Pulse count value			0.000 to 99999999.9
Pulse conversion value			0.000 to 99999999.9
Temperature		°C	-100.0 to 100.0
Calendar			January 1, 2000 00:00:00 - December 31, 2099 23:59:59

Power Monitor / Power Monitor 51A

Power Monitor Manager software user manual

Weidmüller

1.1 Revision history

Version	Date	Change
00	04/2015	First edition

1.2 Contact address

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2. Introduction

2.1 Scope

This manual describes several functions of the Power Monitor Manager software. The installation, communication and basic setup as well as the functions are shown and explained. Troubleshooting for known issues is also integrated.

2.2 Copyright and trademark

- Weidmüller owns the copyright of this quick guide.
- No part of this quick guide may be reproduced in any form or by any means without prior permission.

- Modbus Protocol is a communication protocol developed by Modicon Inc. for PLC. Modbus is the registered trademark of Schneider Electric.
- All other company names or product names that may be mentioned in this publication are trademarks or registered trademarks of their respective owners.

2.3 Requirements

Software

- Install the enclosed Power Monitor Manager software, version 1.20 and S/E-Converter Administrator.
- Power Monitor software needs the Microsoft .NET Framework 4.0 to run.

Ethernet connection

- Connect the Serial/Ethernet Converter to your local Ethernet or directly to your computing device via an RJ45 cable.
- Make sure you are in the same IP range as the Serial/Ethernet Converter.
- The default IP of the Serial/Ethernet Converter is 192.168.1.110.

Others

- Make sure you have administrator rights on the computer.
- Make sure the computer and Serial/Ethernet Converter are in the same network sector.

2.4 RS485 communication

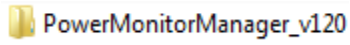
Please refer to our Power Monitor Manual for more information. You can download it in our product catalogue.

3. Installation

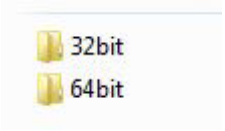
STEP 1 Download the "Power Monitor Manager 51A" software.

Downloads	
Manual	German (PDF), English (PDF)
Package insert	English (PDF)
Quick reference guide	Operation with S-/E-Converter; English (PDF)
Software	Power Monitor Manager; vers. 1.20 (EXE)
Declaration of Conformity	German (PDF)
Tools	Description ModBus registers (XLS)

STEP 2 Unzip the file.



STEP 3 Select the correct folder for your OS. You can check this in Windows Start Menu <System control> <System>.



STEP 4 Run "setup.exe".

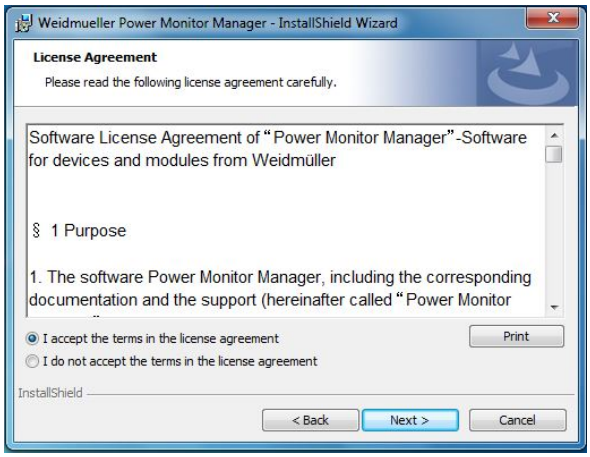
STEP 5 Select your preferred language.

Weidmueller Power Monitor Manager - InstallShield Wizard
Select the language for the installation from the choices below.
English (United States)
English (United States)
Japanese

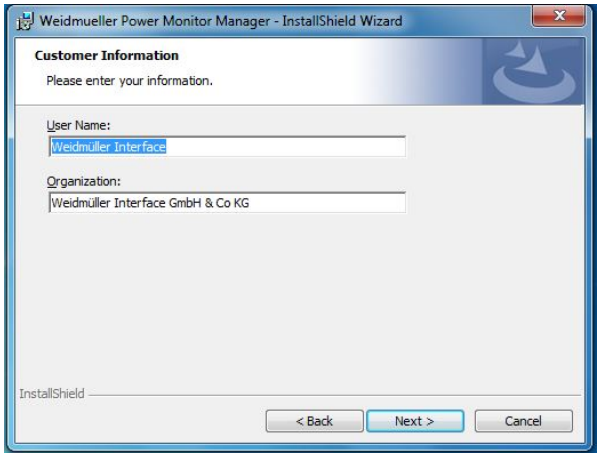
STEP 6 Click on [Next].

Weidmueller Power Monitor Manager - InstallShield Wizard
Welcome to the InstallShield Wizard for Weidmueller Power Monitor Manager
The InstallShield(R) Wizard will install Weidmueller Power Monitor Manager on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

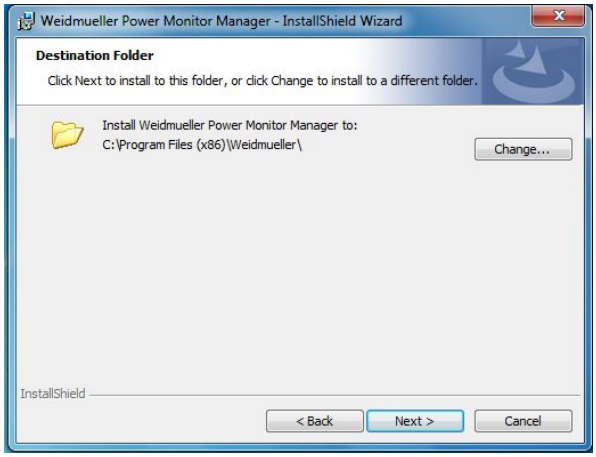
STEP 7 Read and accept the terms in the license agreement then click on [Next].


Weidmueller Power Monitor Manager - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
Software License Agreement of "Power Monitor Manager"-Software for devices and modules from Weidmüller
§ 1 Purpose
1. The software Power Monitor Manager, including the corresponding documentation and the support (hereinafter called "Power Monitor
I accept the terms in the license agreement
I do not accept the terms in the license agreement
Print
InstallShield
< Back
Next >
Cancel

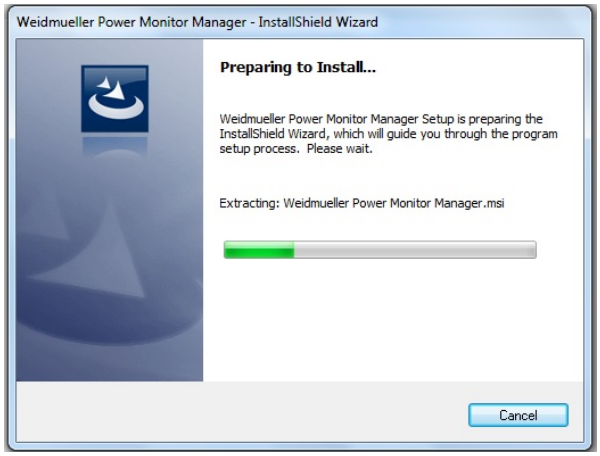
STEP 8 Enter your user name and your organization and click on [Next].



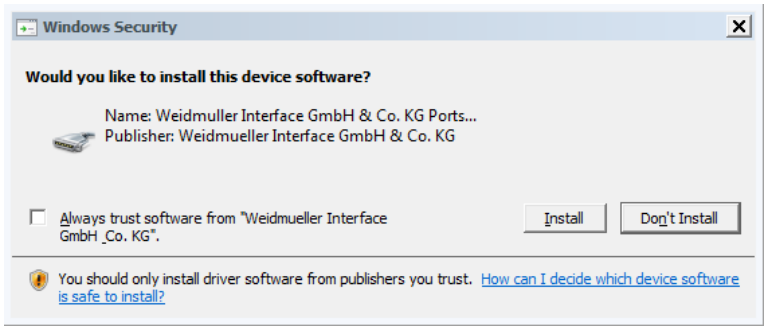
STEP 9 Click on [Change] to change the destination folder if needed and click on [Next] when ready.


Weidmueller Power Monitor Manager - InstallShield Wizard
Destination Folder
Click Next to install to this folder, or click Change to install to a different folder.
Install Weidmueller Power Monitor Manager to:
C:\Program Files (x86)\Weidmueller\
Change...
InstallShield
< Back
Next >
Cancel

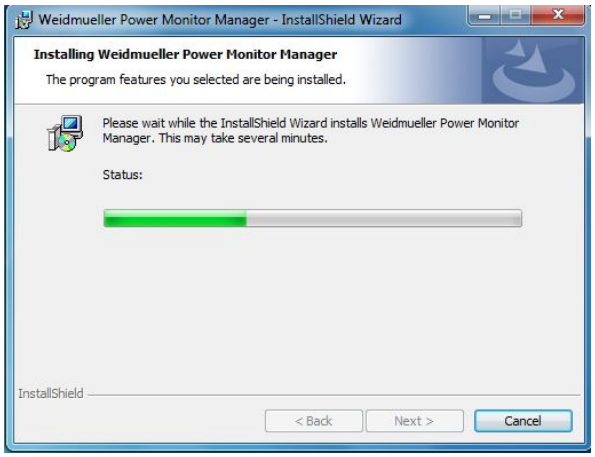
STEP 10 The installer will now install the software.


Weidmueller Power Monitor Manager - InstallShield Wizard
Preparing to Install...
Weidmueller Power Monitor Manager Setup is preparing the InstallShield Wizard, which will guide you through the program setup process. Please wait.
Extracting: Weidmueller Power Monitor Manager.msi
Cancel

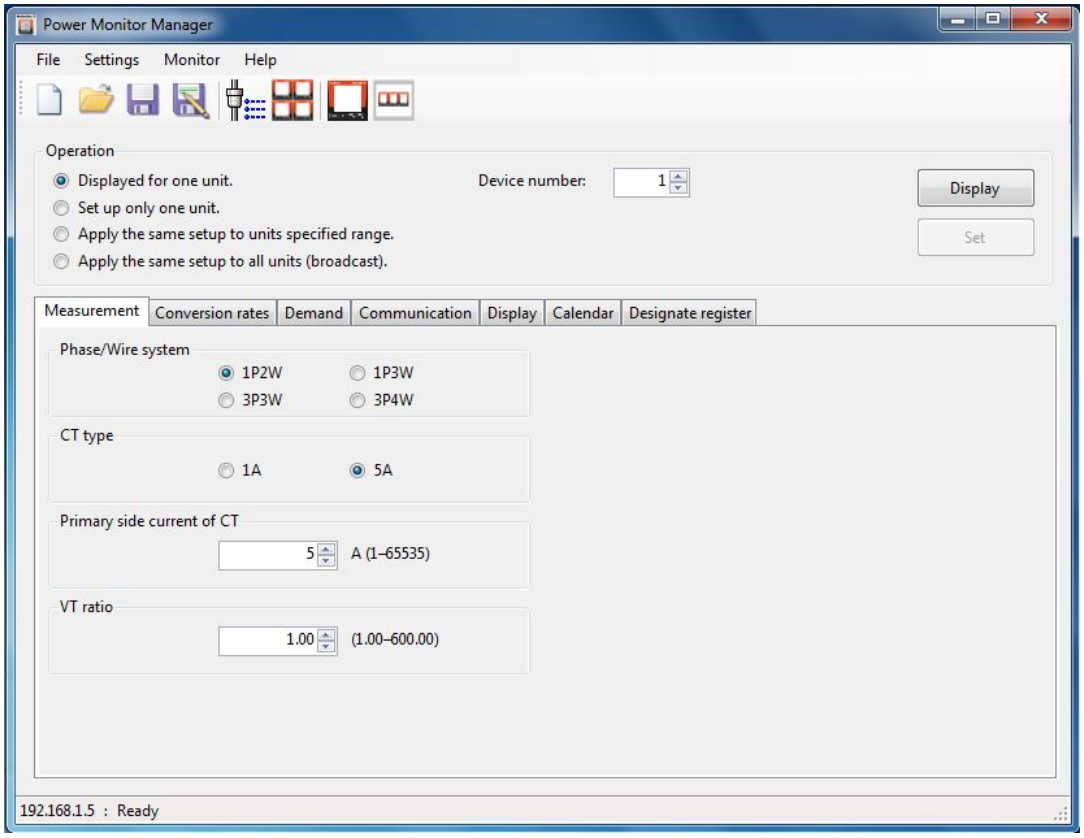
STEP 11 If your system asks you to install the driver, click on [Install].


Windows Security
Would you like to install this device software?
Name: Weidmuller Interface GmbH & Co. KG Ports...
Publisher: Weidmueller Interface GmbH & Co. KG
Always trust software from "Weidmueller Interface GmbH &Co. KG".
Install
Don't Install
You should only install driver software from publishers you trust. How can I decide which device software is safe to install?

STEP 12 Wait until the installer has finished the installation.


Weidmueller Power Monitor Manager - InstallShield Wizard
Installing Weidmueller Power Monitor Manager
The program features you selected are being installed.
Please wait while the InstallShield Wizard installs Weidmueller Power Monitor Manager. This may take several minutes.
Status:
InstallShield
< Back
Next >
Cancel

STEP 13 Start the application. You can find it in the Windows Start Menu folder "Weidmueller".

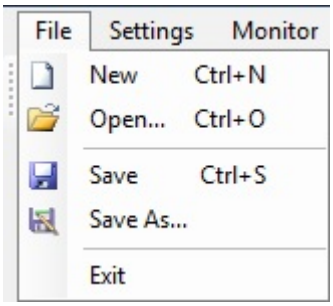


4. Toolbars

This chapter describes the function of the toolbars and buttons.

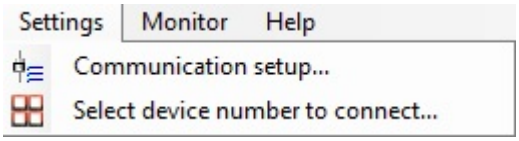
4.1 File

The dropdown menu "File" provides all the basic actions to create, open and save your settings.



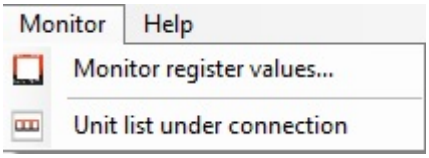
4.2 Settings

In this menu you can choose your preferred communication setup and the number of devices you would like to connect to.



4.3 Monitor

The "Monitor" menu shows you the current data and the status of the connected devices. You can also save your data.



4.4 Help

In this menu you can find the current version and the license information.

4.4.1 New

Creates a new file with standard parameters

4.4.2 Open

Opens a saved file with the saved parameters

4.4.3 Save

Saves the current parameters

4.4.4 Save as

Saves the current parameters in a ".wmpm" file in the chosen path

4.4.5 Communication setup

Opens the communication setup window, where the communication parameters are defined

4.4.6 Select device number to connect

Opens the window where the number of devices to connect to is shown.

4.4.7 Monitor register values

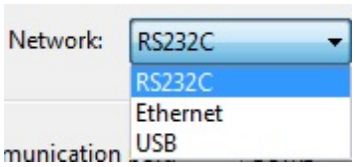
Monitors the current values of the selected variables and logs them to a ".csv" file.

4.4.8 Unit list under connection

Shows the connection status of the connected devices

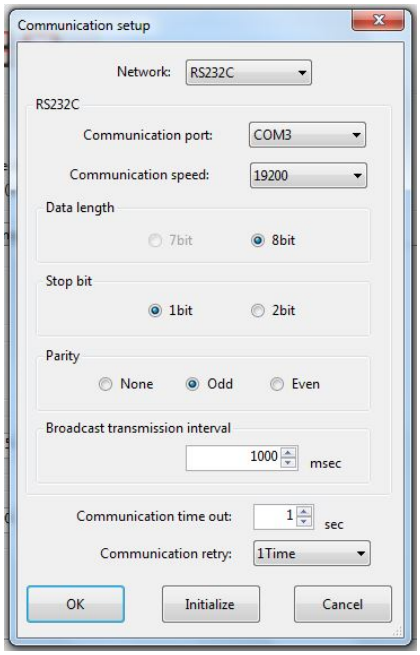
5. Connection/Communication

There are three different types of communication with the Power Monitor. You can communicate via RS232C, Ethernet or via a USB connection.

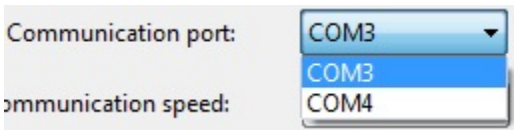


5.1 RS232C communication

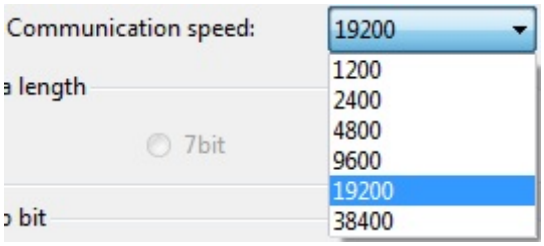
Clicking on [Communication setup] and choosing RS232C as Network opens this window, where you have multiple options for configuring your communication type. For RS232C communication, you need a Serial/Ethernet converter like the Weidmüller "IE-CS-2TX-1RS232/485". If you already have one, please configure it as described in the Power Monitor quick guide (document number 1502950000).



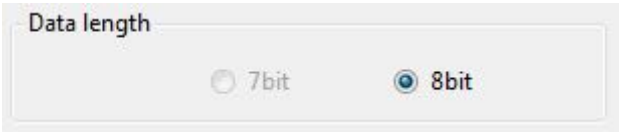
Select the configured communication port.



Select the configured communication speed (Baud rate).



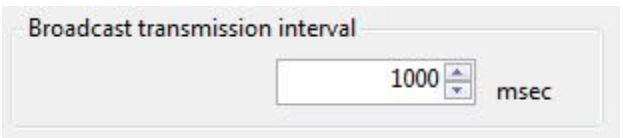
Set the data length.



The previously configured stop bit length can be selected here.

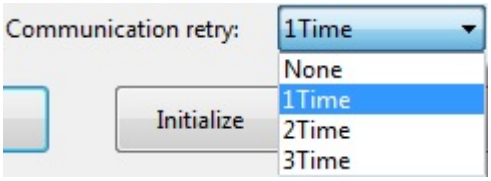
In the same way as the Stop bit, the parity bit can be selected here as configured with the Serial/Ethernet Converter.

Set the required broadcast transmission interval (range 0 to 65535).

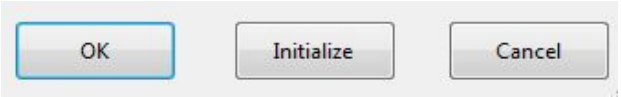


Select the duration of a communication timeout until a system response (range 1 to 99).

Set the number of system retries in the event of a communication timeout.



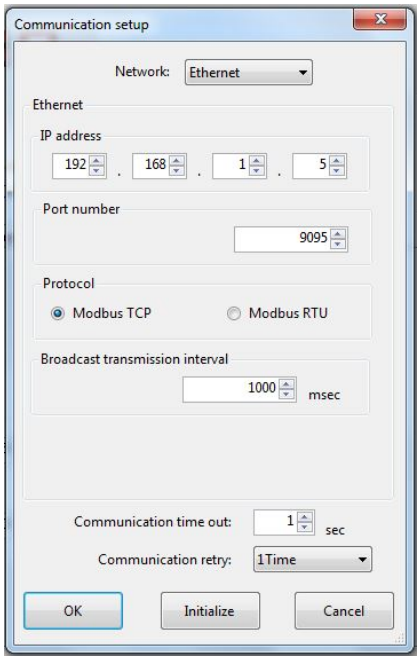
OK: Accepts your settings
Initialize: Resets the settings
Cancel: Cancels the progress



5.2 Ethernet communication

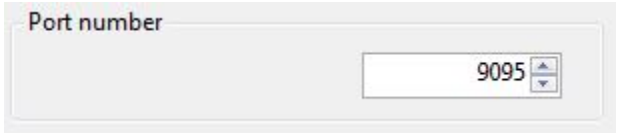
If you prefer communication via Ethernet instead of RS232C, you should make sure that the Power Monitor is in the same network as your computer or is at least connected directly to it via an RJ45 cable.

If you click on [Ethernet] in the dropdown menu in the communication setup, the window will have a different appearance. The Broadcast transmission interval, communication timeout and the communication retry options are still available and have the same range as explained in chapter 5.1 "RS232C communication".

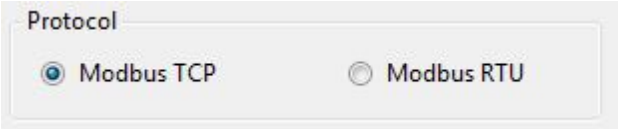


Select the IP address for your Power Monitor here (range of every window: 0 to 255).

Set the port number for your Power Monitor (range 0 to 65535).



Select the preferred communication protocol.

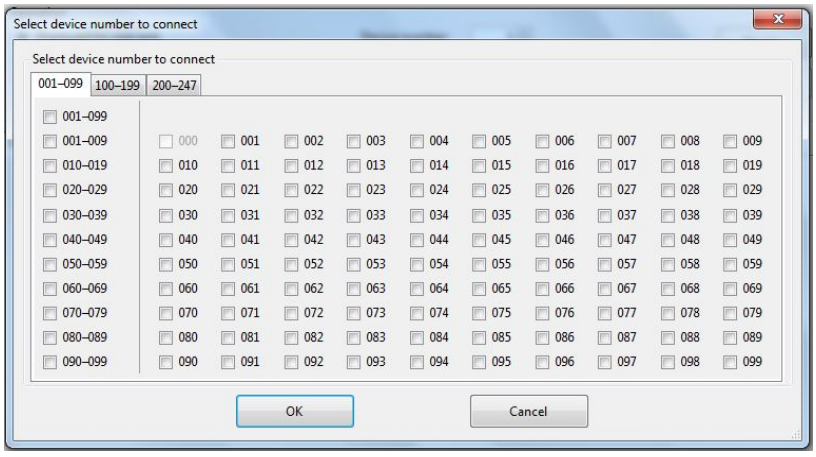


5.3 Communication success

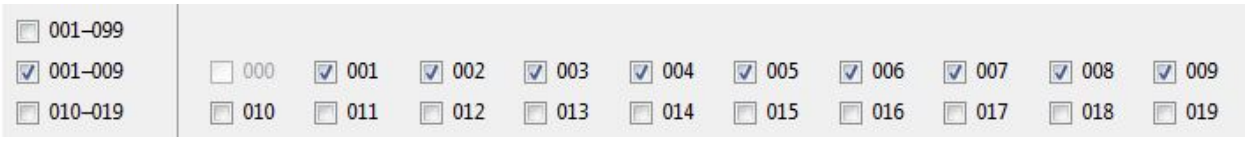
When you have finished your communication setup, test the communication by clicking on [Display]. If the connection is successful the following text will appear at the bottom left.

6. Device number selection

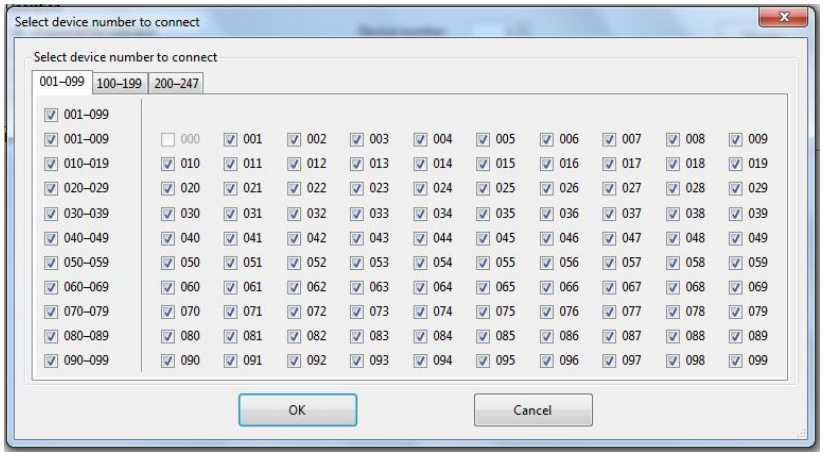
Clicking on [Select device number to connect] will open the following window. None of the checkboxes are activated.



You can click on the numbers to activate individual devices or click on the checkboxes on the left. This results in different options. You can select a block of 10 devices or select all the devices displayed by clicking on the button at the top.



Click on [Ok] if you want to accept your settings or click on [Cancel] to reset it.

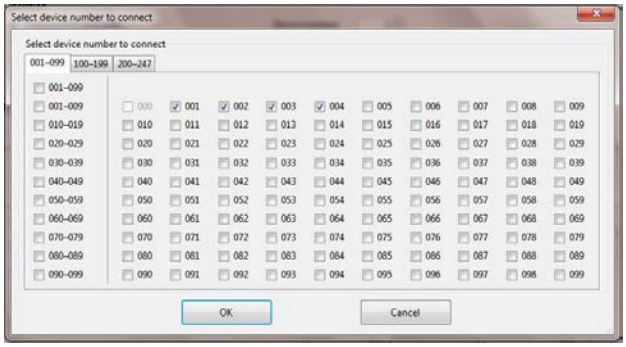


	NOTICE
	This tool is not available for USB.

7. Connection list

	NOTICE
	To demonstrate this tool, one Power Monitor was connected via an RS232 connection (see chapter 5.1 "RS232C communication"). Although only one Power Monitor was connected, a test for communication with 4 devices was set up. This demonstrates the process of checking the connections and the final status display.

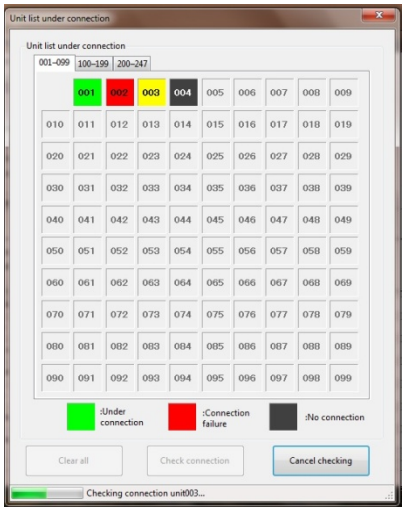
STEP 1 Select the number of devices you would like to connect to (see chapter 6 "Device number selection").

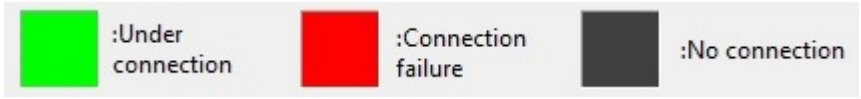


STEP 2 Open the [Unit list under connection] menu. You will now see the number of devices you selected against a grey background. This indicates that there is no connection or in this case, no connection has been established yet.

STEP 3

Click on the [Check connection] button and the system will automatically start the check. In the following image on the left you can see the 4 phases during the connection. Device 1 (which is actually connected) is displayed as "Under connection". Device 2 is displayed as "Connection failure". Device 3 is currently being tested so it is displayed with a yellow background and device 4 has not been checked yet. After the test, only device 1 is displayed with a green background, the other devices are displayed with a red background.

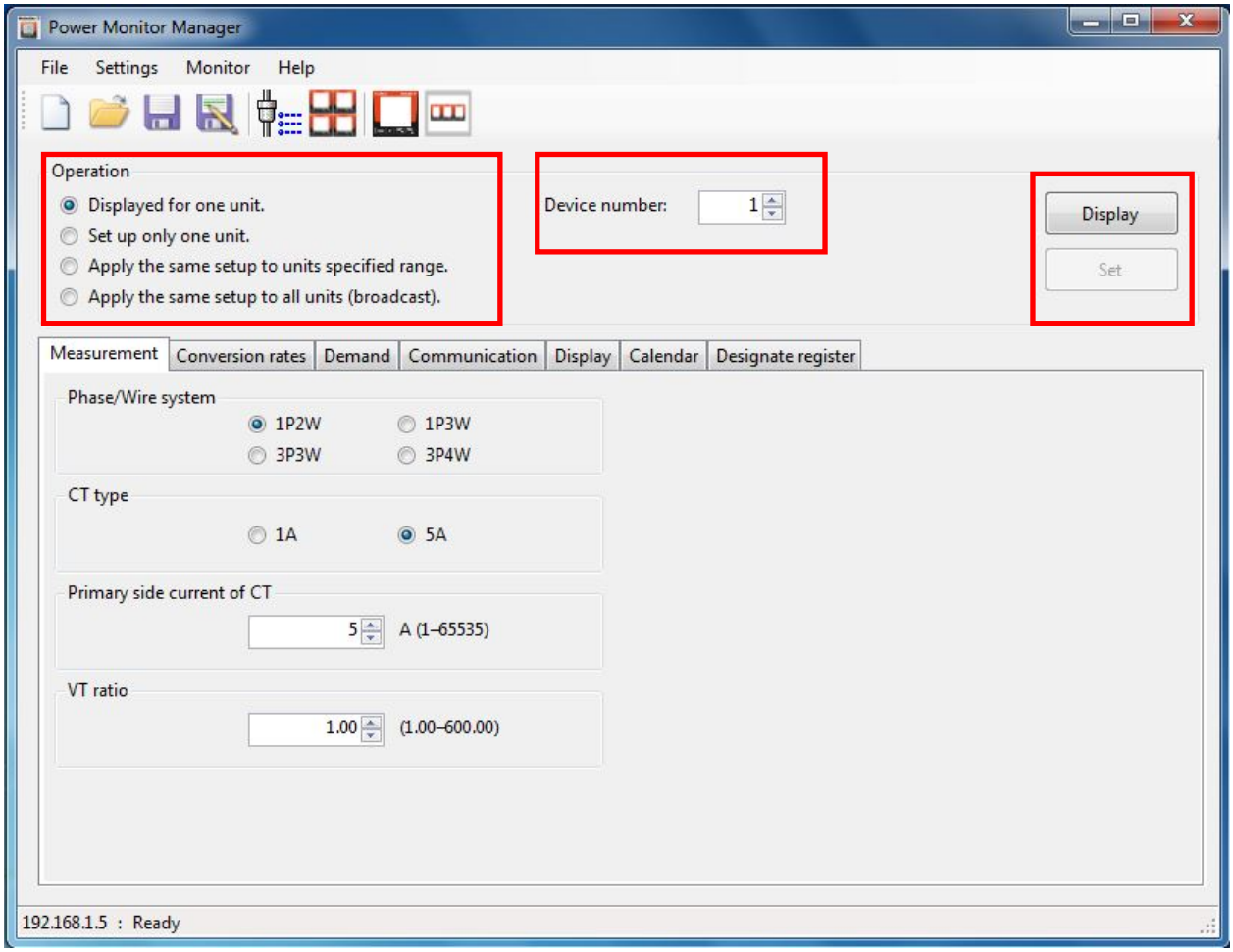




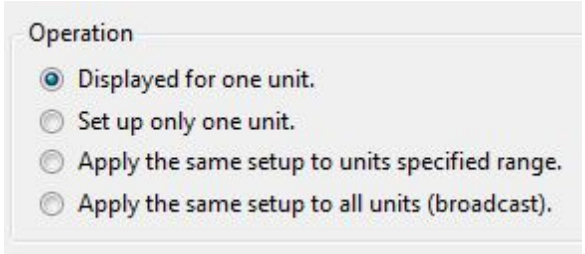
NOTICE

This tool is not available for USB.

8. Settings

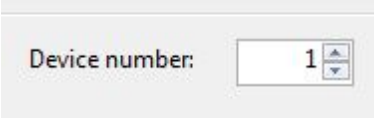


Select the required operation for your devices.
[Displayed for one unit] shows you the current settings on one device.
[Set up only one unit] sets the current configuration for the selected device.
[Apply the same setup to all units] sets the current configuration for all connected devices.


Operation
Displayed for one unit.
Set up only one unit.
Apply the same setup to units specified range.
Apply the same setup to all units (broadcast).

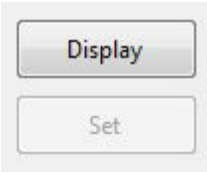
If you click on [Apply the same setup to units specified range], you can choose the range of units you want to set the same configuration for.

Select the "Device number" you want to set or of which you wish to display the data.

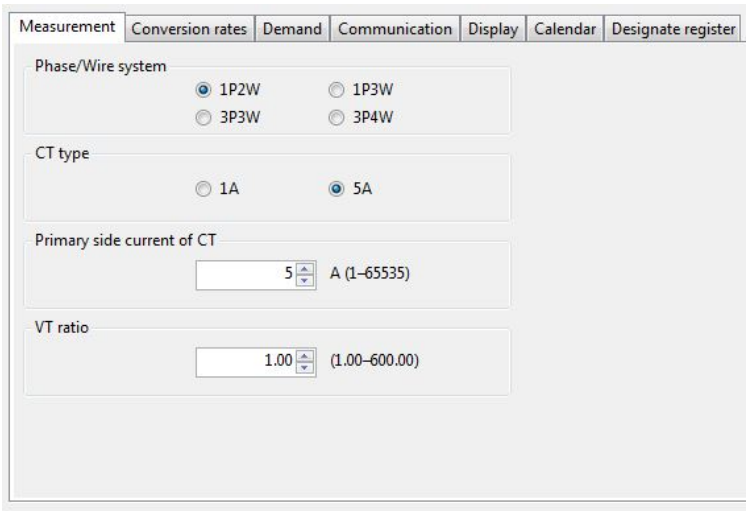


If [Displayed for one unit] is activated, the [Display] button is available. You can now display the settings of the currently set device number.

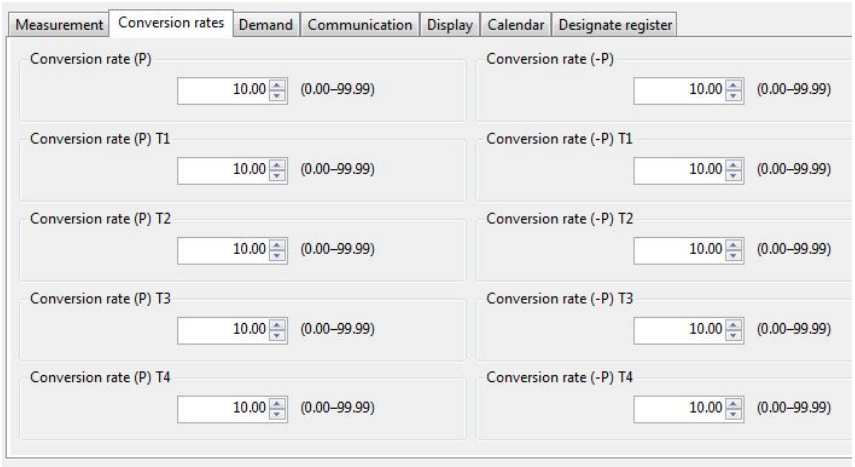
[Set] is activated for every other operation and sets your selected configuration for the Power Monitor.



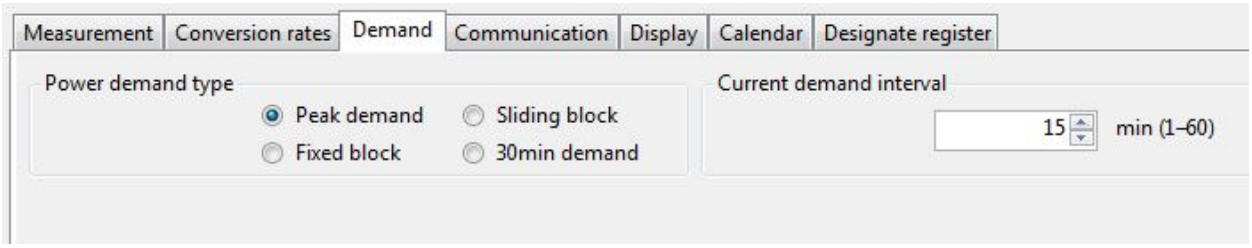
In the first menu you can select the outward connections which are connected to the Power Monitor.
The "Phase/Wire system" you connected the Power Monitor to can be seen in the Power Monitor Manual.
You can see the CT and VT information directly on the products used.

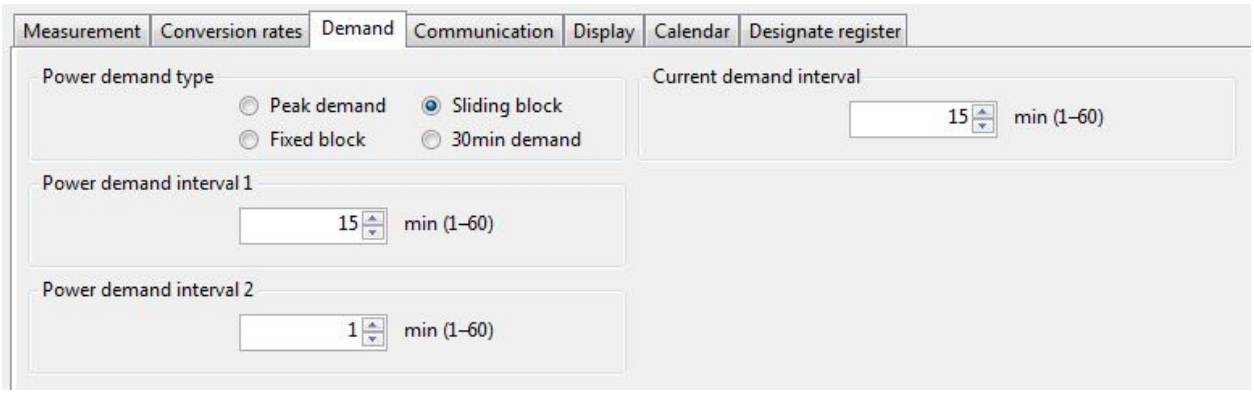


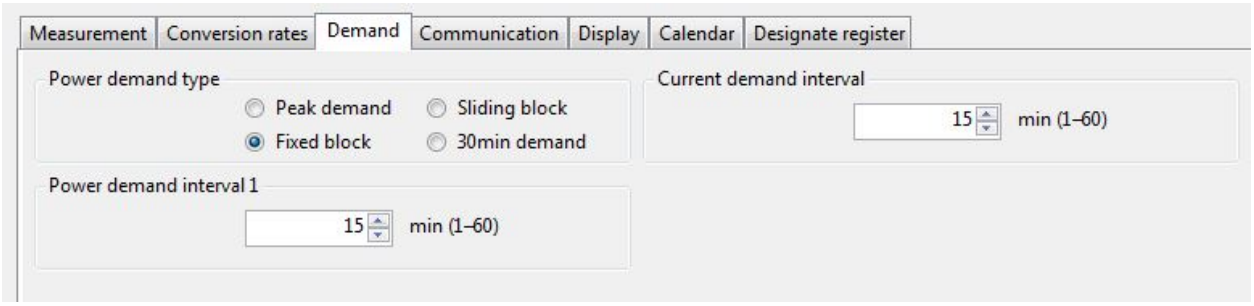
Set the conversion rate per integral active power (P) and per integral export power (-P) 1 kWh. You can set 5 kinds of rate for each time zone; all-time, time zone 1, time zone 2, time zone 3 and time zone 4. Rate for all-time is used when the time program is not set. When you set one or more time programs, the rates for time zone 1, 2, 3 and 4 are used. Rate for all-time is not used.

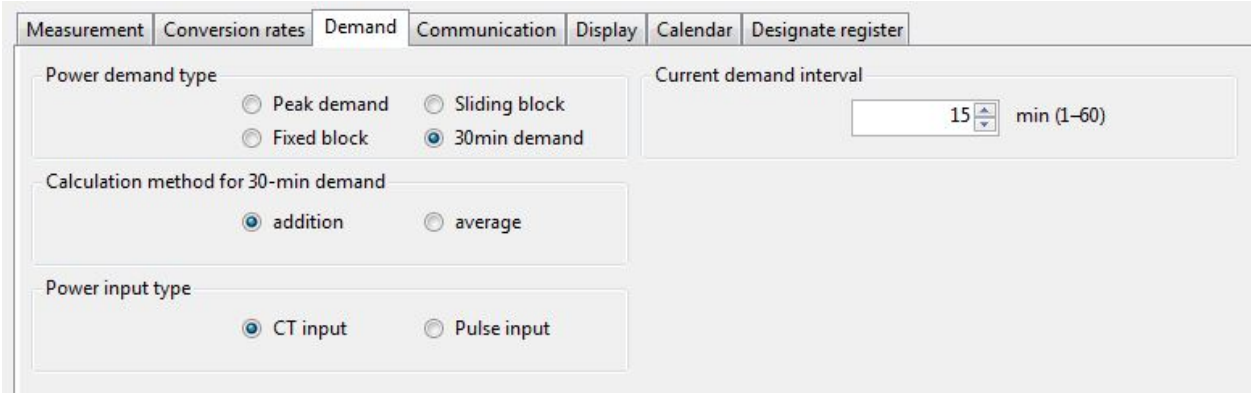


The [Demand] menu contains several submenus depending on which "Power demand type" you choose. The [Peak demand] menu only contained the "Current demand interval" switch as in all other submenus too. Clicking on [Sliding block] will offer you two new windows "Power demand interval 1" and "Power demand interval 2". The first one is also displayed when you click on [Fixed block]. In the [30 min demand] menu you can choose your calculation method and the power input type (according to IEC 61557-12).

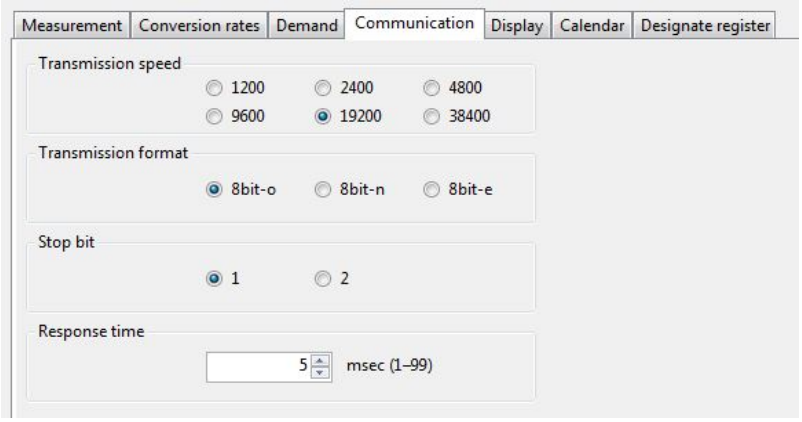




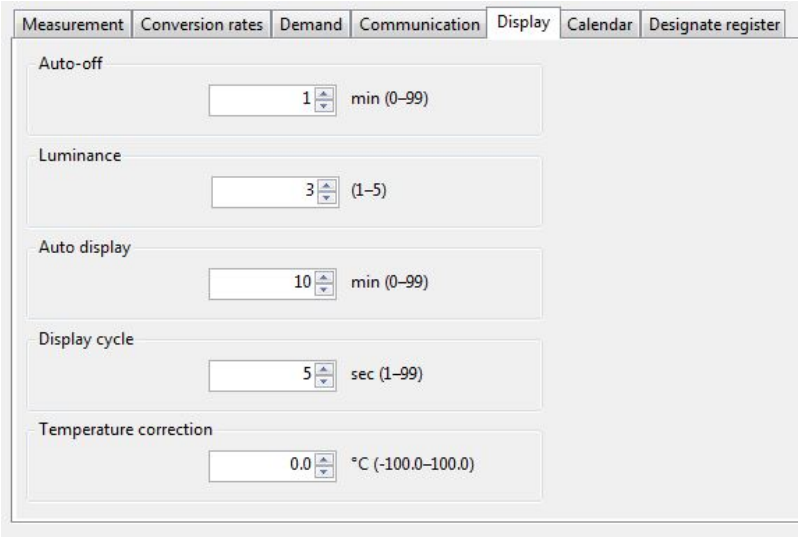




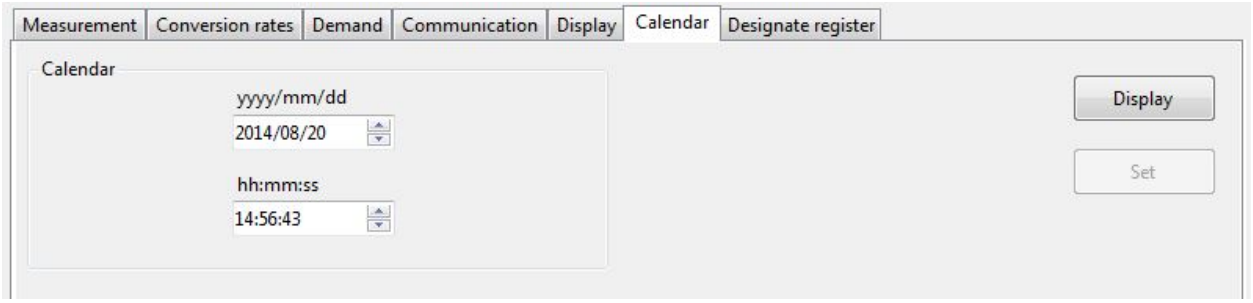
Set the communication settings of your Power Monitor in this menu. The communication settings have to be the same as on your S/E-Converter or in your communication setup of the Power Monitor Manager software. The "Transmission format" sets up the data length and the parity bit (-o for odd, -n for non and –e for even).



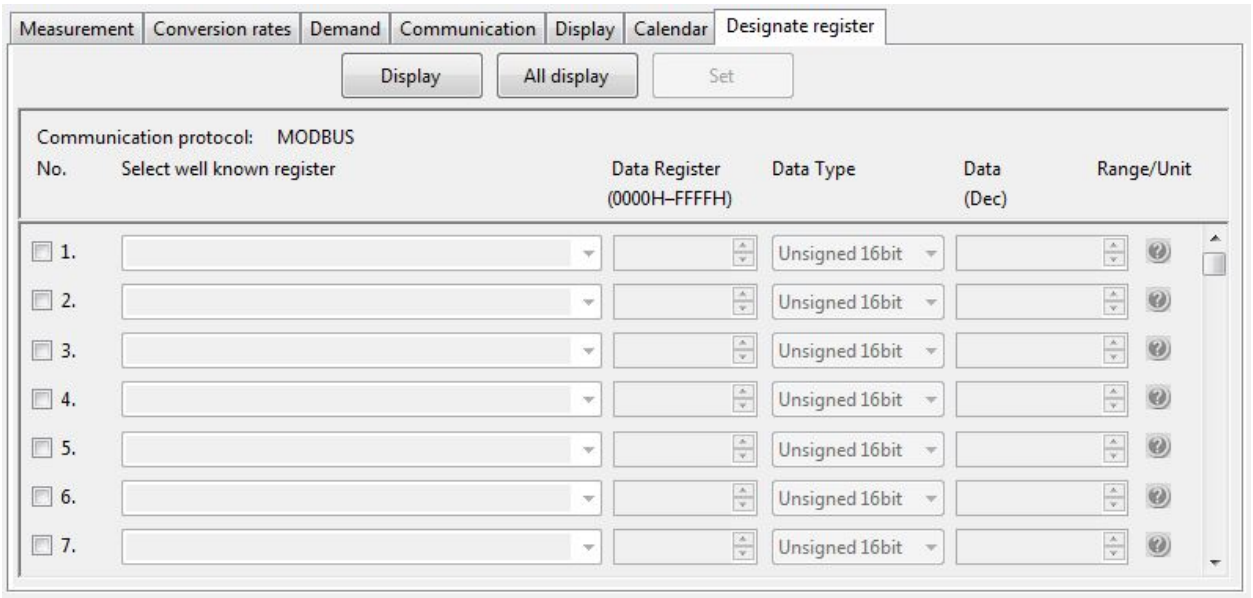
In the [Display] menu you can display and set the settings for the display of your Power Monitor. "Auto off" indicates how long the display will be illuminated. "Luminance" is the brightness of the display, "Auto display" sets the time period to start changing the menus of the Power Monitor and "Display cycle" is the duration the next menu is shown in auto mode.

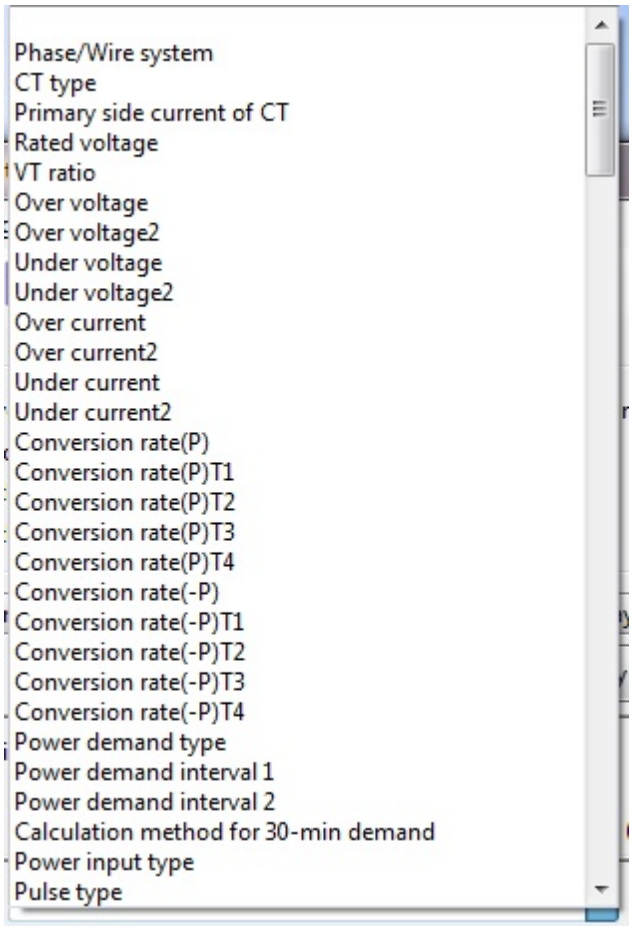


In this menu you can display and set the calendar of your Power Monitor. Clicking on [Display] will show you the time currently set on the Power Monitor, clicking on [Set] will transfer your settings to the Power Monitor.

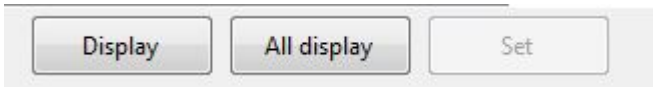


The [Designate register] menu shows you the data registers, the data type and the data of the previous menu settings. To select one, you first need to click on the checkbox numbers. Then you make a selection from the dropdown menu from "Select well known register". The "Data Register" will be automatically displayed. Then select a "Data Type" and click on [Display]. If you want to have an overview of all the parameters, simply click on [All display].




Phase/Wire system
CT type
Primary side current of CT
Rated voltage
VT ratio
Over voltage
Over voltage2
Under voltage
Under voltage2
Over current
Over current2
Under current
Under current2
Conversion rate(P)
Conversion rate(P)T1
Conversion rate(P)T2
Conversion rate(P)T3
Conversion rate(P)T4
Conversion rate(-P)
Conversion rate(-P)T1
Conversion rate(-P)T2
Conversion rate(-P)T3
Conversion rate(-P)T4
Power demand type
Power demand interval 1
Power demand interval 2
Calculation method for 30-min demand
Power input type
Pulse type

Unsigned 16bit
Signed 16bit
Unsigned 16bit
Signed 32bit
Unsigned 32bit
HEX4 digits
HEX8 digits

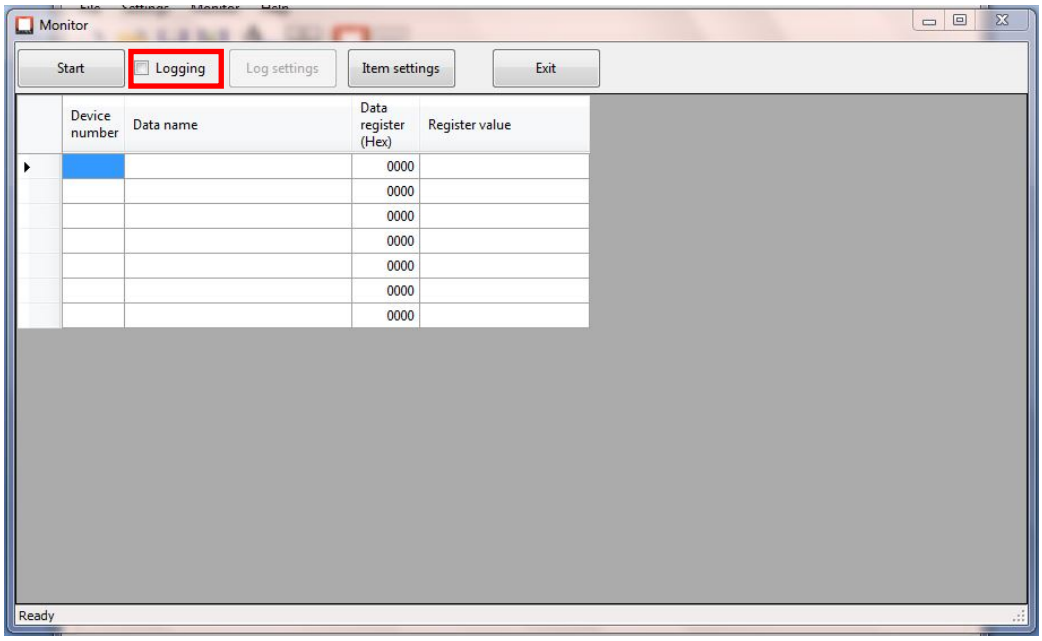

Display
All display
Set

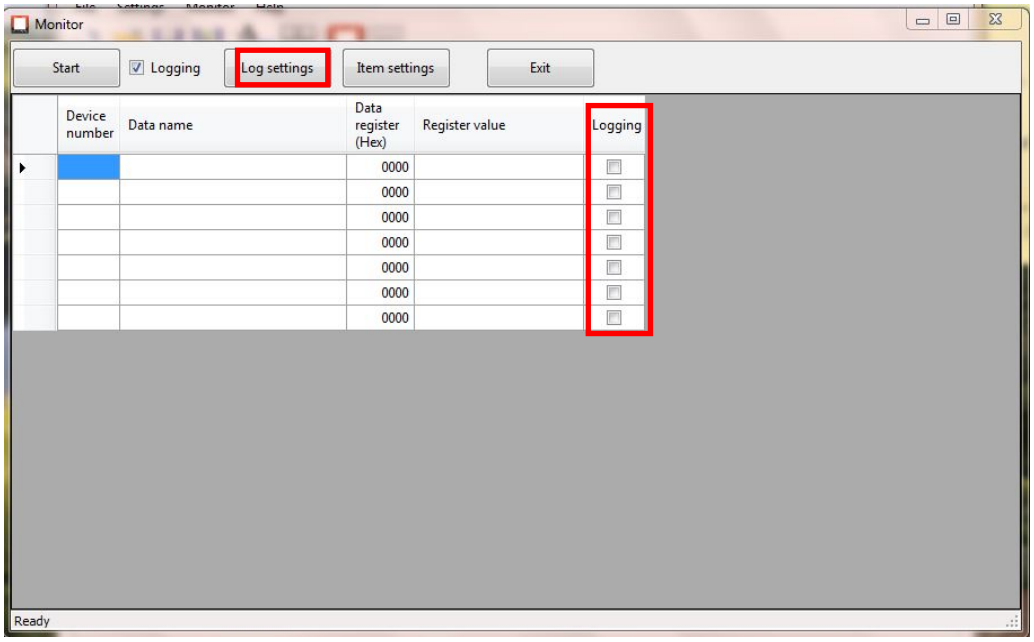
9. Data Monitoring / Data Logging

This chapter describes how to monitor and log the data you need.

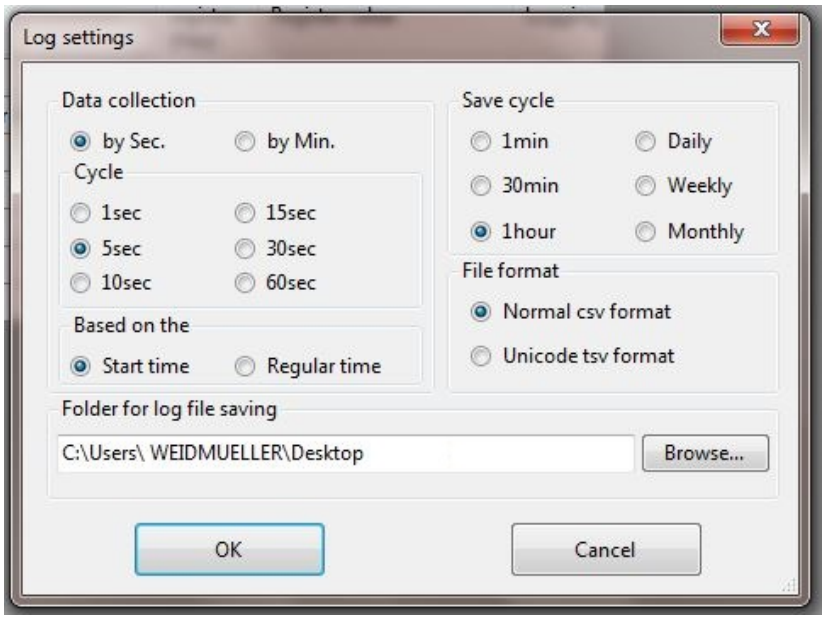
STEP 1

Open the [Monitor register values] toolbar and the following window will be displayed. If you just want to monitor your data, proceed with step 3, otherwise click the checkbox [Logging]. If you do so, the table will expand to include a new column and the [Log settings] button will no longer be transparent.



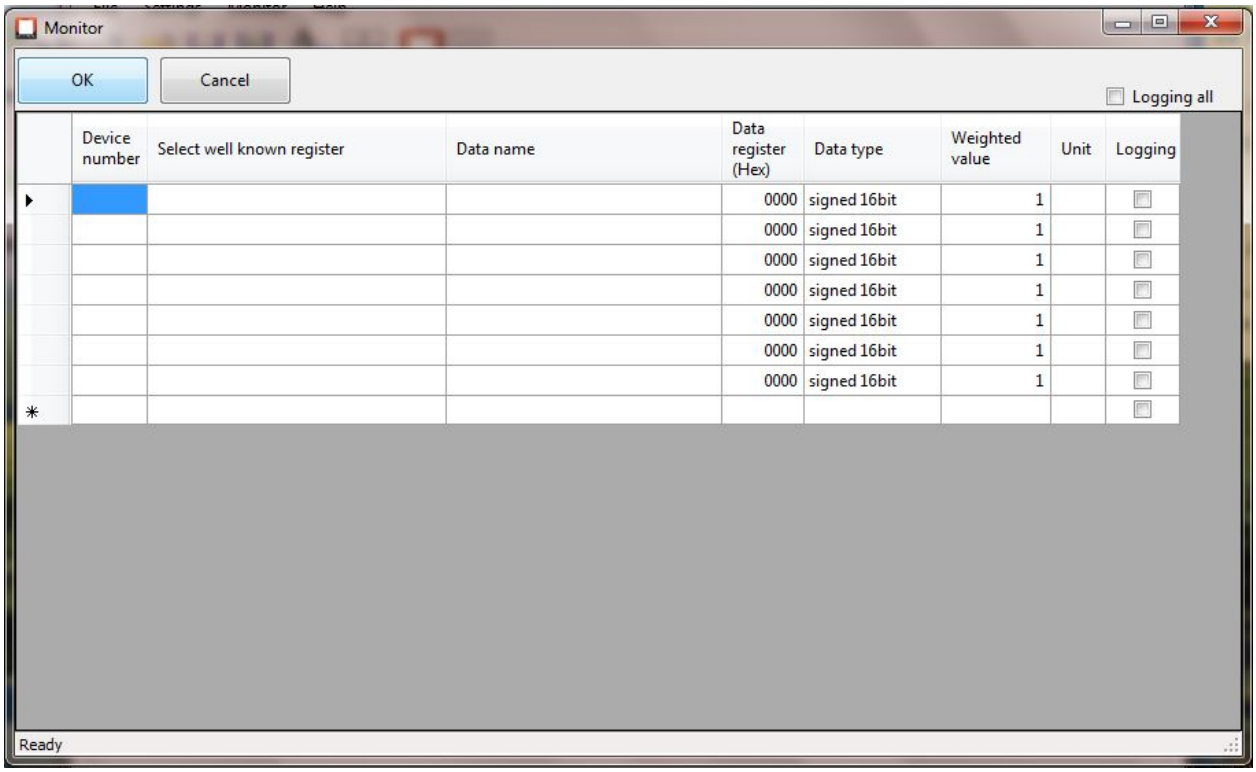


STEP 2 Click on [Log settings] and select your preferred logging settings.

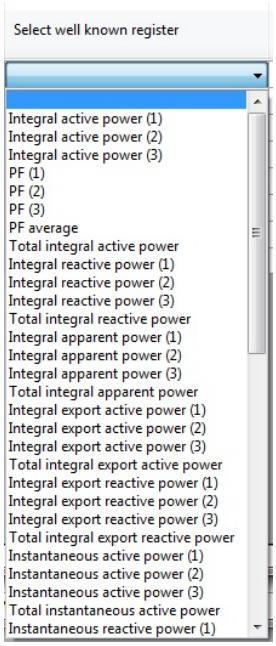


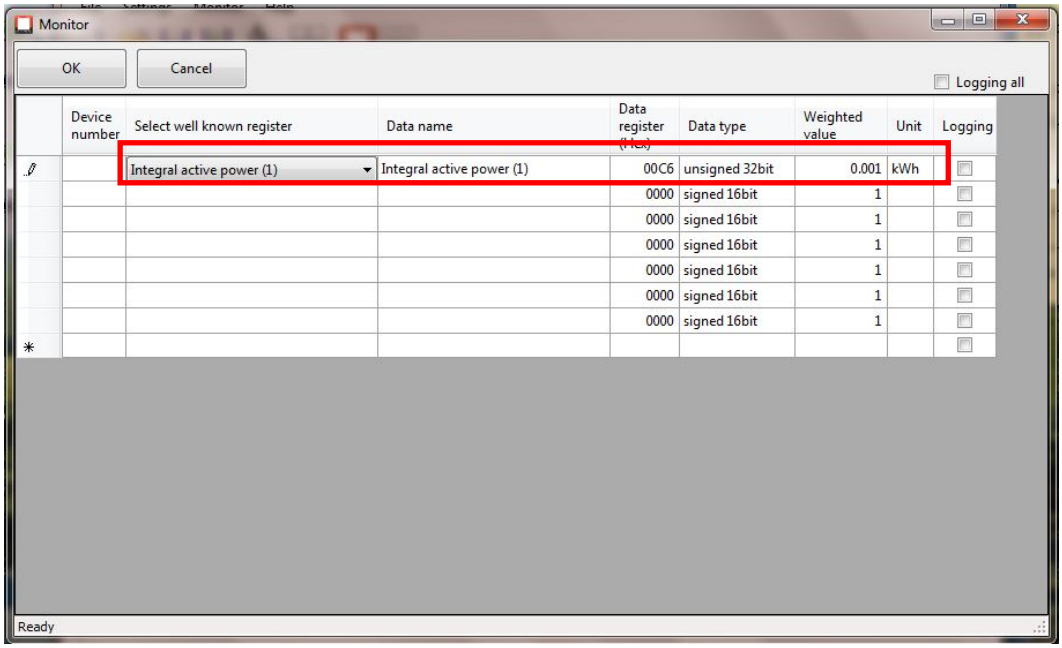
In the "Data collection" and "Save cycle" menus you can select the duration between two measurements.
"Save cycle" is the menu where you can select the time between two auto saved files.
The "File format" is either a .csv or a .tsv file depending on your selection.
The destination for the files can be browsed below.

STEP 3 Click on [Item settings] to select the values you would like to monitor or log.

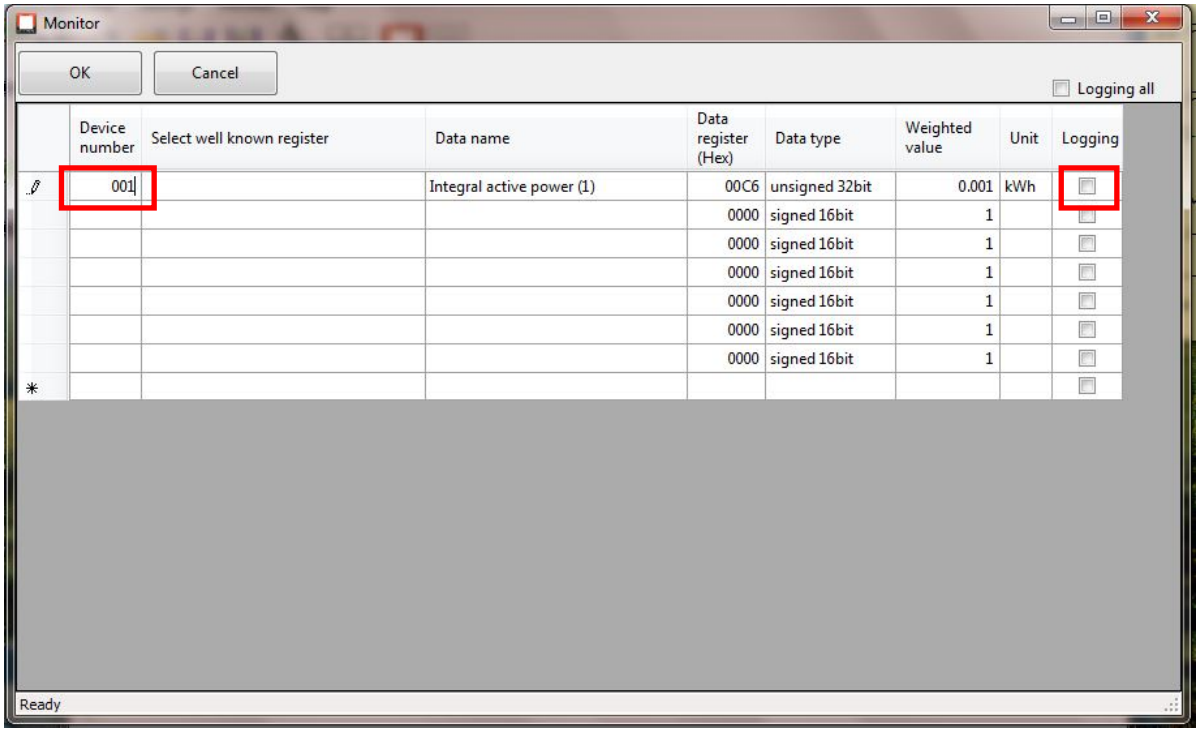


The [Select well known register] column opens a dropdown menu where you can choose all the data you wish to display on your Power Monitor. After selecting one, the data name, register and type are automatically corrected by the software. The same happens for the value and the unit.


Select well known register
Integral active power (1)
Integral active power (2)
Integral active power (3)
PF (1)
PF (2)
PF (3)
PF average
Total integral active power
Integral reactive power (1)
Integral reactive power (2)
Integral reactive power (3)
Total integral reactive power
Integral apparent power (1)
Integral apparent power (2)
Integral apparent power (3)
Total integral apparent power
Integral export active power (1)
Integral export active power (2)
Integral export active power (3)
Total integral export active power
Integral export reactive power (1)
Integral export reactive power (2)
Integral export reactive power (3)
Total integral export reactive power
Instantaneous active power (1)
Instantaneous active power (2)
Instantaneous active power (3)
Total instantaneous active power
Instantaneous reactive power (1)



The actual setting is not finished yet. Now you have to type in the device number of the device you want to monitor or log. Double-click in the "Device number" column and type in the three-digit number. If you want to log data, you also need to click the [Logging] checkbox for the data you want to log.

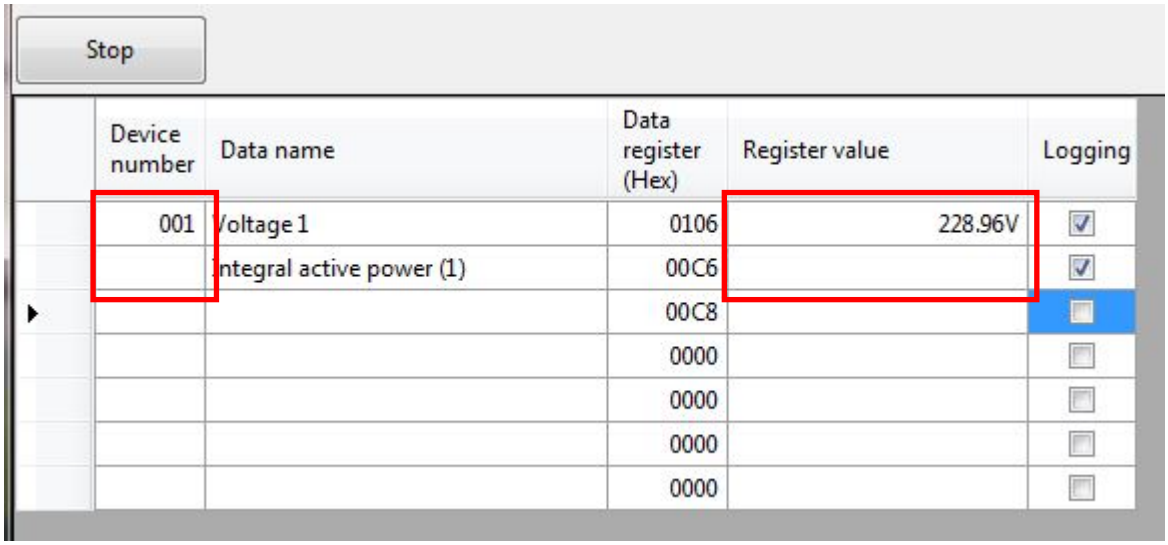


If you would like to change the name of the data, double-click in the window "Data name". Now you can type in your specific name for the data. If you would like to change anything else, proceed in the same manner.

STEP 4

Start the measurement by clicking on [Start]. You will see the instantaneous value of the measured data in the column "register value". By clicking [stop], you complete the measurement and save the data in the chosen file.

As seen below, not defining the device number will result in the value not being measured although [Logging] is checked.



10. Help for known problems

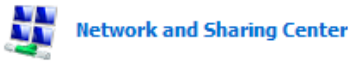
10.1 Configuring the RS232 Connection

There are actually two known problems regarding the RS232 connection.

10.1.1 The Configure button of the S/E-Converter

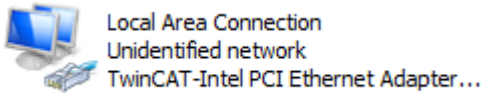
The guide for the S/E-Converter tells you to search for the Converter and then click on "Configure" afterwards. This may not work and the system tells you that progress has been aborted. Therefore a simple solution is known.

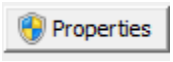
Open the "Windows Control Panel" and click on [Network and Sharing Center].

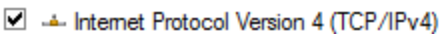


Next click on the button [Change adapter settings].

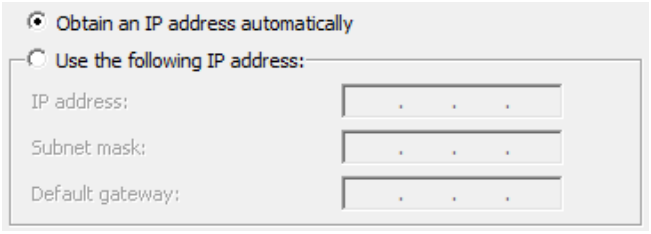
Continue and double-click on your active LAN connection. Then select [Properties] and search for the [Internet Protocol Version 4 (TCP/IPvv4)]. Double-click on it and continue.

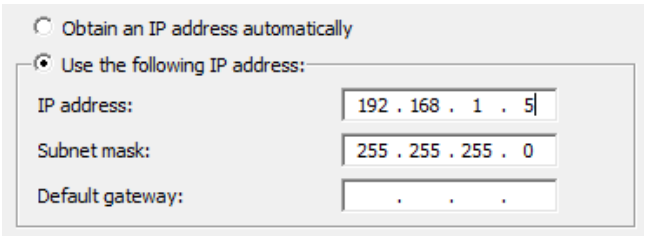






The following window will appear and "Obtain IP address automatically" is selected. Click on the [Use the following IP address] button and type in the IP address 192.168.1.X (Replace the X with any number you like).



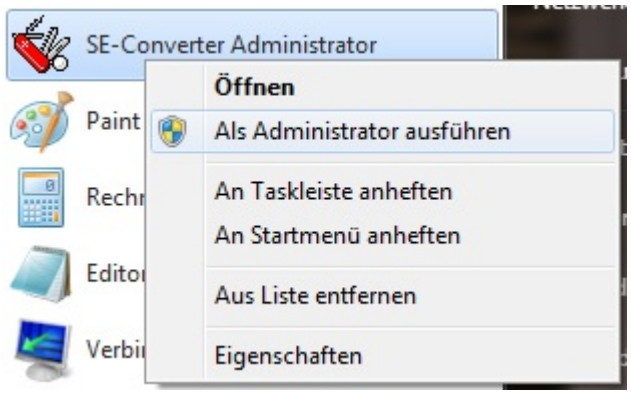

Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 1 . 5
Subnet mask:
255 . 255 . 255 . 0
Default gateway:

You should now be able to configure your Power Monitor.

10.1.2 Do not alter the rights to change the port

It may appear that in the last step of configuring the S/E Converter the application will tell you not to alter the rights to change the ports. An easy solution to this follows.

Open your Windows Start menu and search for the S/E Converter Administrator. Now simply right-click on it and click on [Run as administrator]. It should work then.



10.2 Insufficient system resources

The solution to this problem is just to restart your PC. After this it should work.

11. Reference list

1. Weidmüller Interface (2014). "Power Monitor 51A – Manual"
   Retrieved from www.weidmueller.com.
2. Weidmüller Interface (2014). "Power Monitor/Power Monitor 51A – Quick guide to set up a connection with the Power Monitor devices through the Weidmüller Serial/Ethernet Converter"
   Retrieved from www.weidmueller.com

www.weidmueller.com

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Order number:
1549690000/00/04.15

Power Monitor / Power Monitor 51A

Power Monitor Manager Software Handbuch

Weidmüller

1.1 Revisionsverlauf

Version	Datum	Änderung
00	04/2015	Erstausgabe

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Internet www.weidmueller.com

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2. Einleitung

2.1 Anwendungsbereich

Dieses Handbuch zeigt diverse Funktionen der Power Monitor Manager-Software. Sowohl die Installation, die Kommunikation und die Basis-Einstellungen als auch die Funktionen werden angezeigt und erklärt. Ein weiterer Bestandteil ist die Fehlerbehebung für bekannte Probleme.

2.2 Marken- und Urheberrecht

- Weidmüller besitzt das Urheberrecht für das vorliegende Handbuch.
- Das Handbuch darf ohne vorherige Genehmigung weder ganz noch teilweise in irgendeiner Form oder mit irgendwelchen Mitteln vervielfältigt werden.
- Beim Modbus-Protokoll handelt es sich um ein Kommunikationsprotokoll, das von Modicon Inc. für speicherprogrammierbare Steuerungen (SPS) entwickelt wurde. Modbus ist eine eingetragene Marke von Schneider Electric.
- Alle anderen Firmen- oder Produktnamen, die in diesem Dokument erwähnt werden, sind Marken oder eingetragene Marken der jeweiligen Eigentümer.

2.3 Voraussetzungen

Software

- Installieren Sie die Software Power Monitor Manager, Version 1.20 und S/E-Converter Administrator.
- Die Power Monitor Software setzt die Verwendung von Microsoft .NET Framework 4.0 voraus.

Ethernet Verbindung

- Verbinden Sie den Seriell/Ethernet-Konverter mit Ihrem lokalen Ethernet oder direkt mit Ihrem Computer über ein RJ45-Kabel.
- Stellen Sie sicher, dass Sie den IP-Adressbereich des Seriell/Ethernet-Konverters verwenden.
- Die voreingestellte IP-Adresse des Seriell/Ethernet-Konverters lautet 192.168.1.110.

Sonstiges

- Stellen Sie sicher, dass Sie Administratorrechte auf Ihrem Computer besitzen.
- Stellen Sie sicher, dass sich Ihr Computer und der Seriell/Ethernet-Konverter im gleichen Netzwerk befinden.

2.4 RS485 Kommunikation

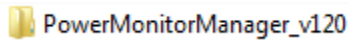
Beachten Sie bitte unser Power Monitor Handbuch für genauere Informationen. Dieses können Sie in unserem Produktkatalog downloaden.

3. Installation

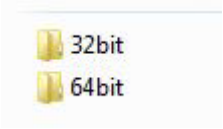
SCHRITT 1 Laden Sie die Power Monitor Manager Software herunter.

Downloads	
Beipackzettel	English (PDF)
Handbuch	German (PDF), English (PDF)
Kurzanleitung	Operation with S-/E-Converter; English (PDF)
Software	Power Monitor Manager; vers. 1.20 (EXE)
Konformitätserklärung	German (PDF)
Tools	Description ModBus registers (XLS)

SCHRITT 2 Entpacken Sie den Ordner.



SCHRITT 3 Wählen Sie den richtigen Ordner für Ihr Betriebssystem. Sie können das im Windows Start Menü <Systemsteuerung> <System> prüfen.



SCHRITT 4 Starten Sie "setup.exe".

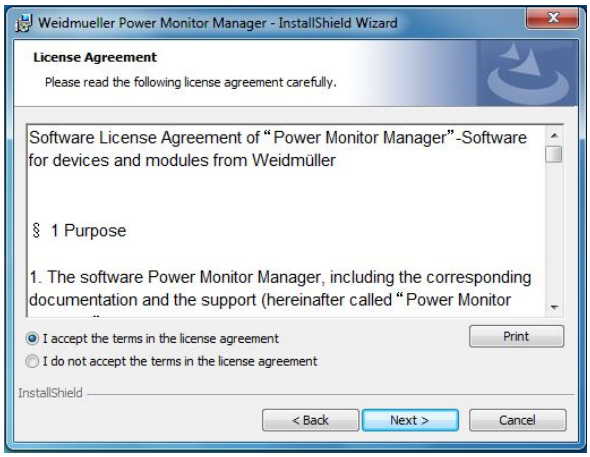
SCHRITT 5 Wählen Sie Ihre bevorzugte Sprache aus.

Weidmueller Power Monitor Manager - InstallShield Wizard
Select the language for the installation from the choices below.
English (United States)
English (United States)
Japanese

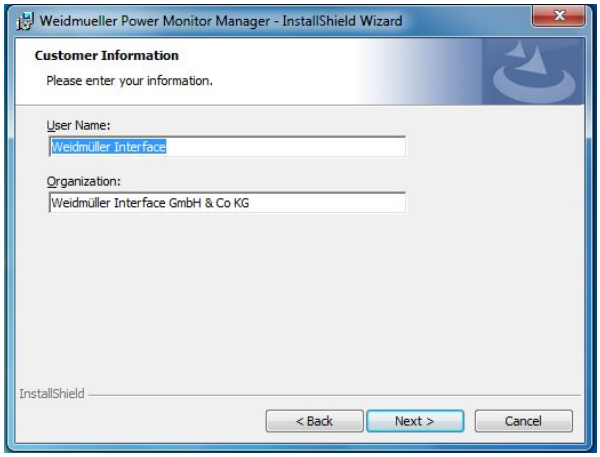
SCHRITT 6 Klicken Sie auf [Next].

Weidmueller Power Monitor Manager - InstallShield Wizard
Welcome to the InstallShield Wizard for Weidmueller Power Monitor Manager
The InstallShield(R) Wizard will install Weidmueller Power Monitor Manager on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

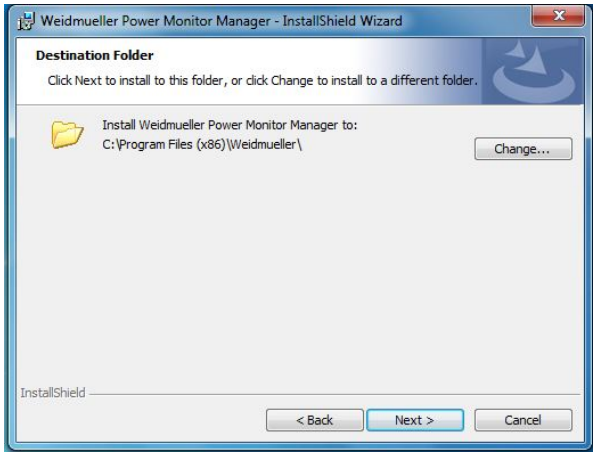
SCHRITT 7 Lesen und akzeptieren Sie die Nutzungsbedingungen. Klicken Sie danach auf [Next].


Weidmueller Power Monitor Manager - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
Software License Agreement of "Power Monitor Manager"-Software for devices and modules from Weidmüller
§ 1 Purpose
1. The software Power Monitor Manager, including the corresponding documentation and the support (hereinafter called "Power Monitor
I accept the terms in the license agreement
I do not accept the terms in the license agreement
Print
InstallShield
< Back
Next >
Cancel

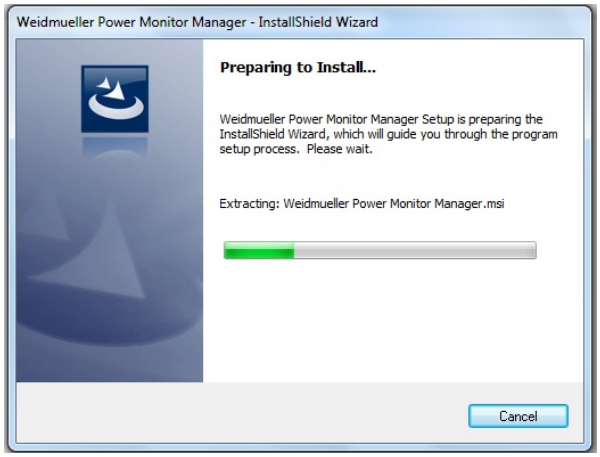
SCHRITT 8 Geben Sie Ihren Namen und Ihr Unternehmen ein und klicken Sie auf [Next].



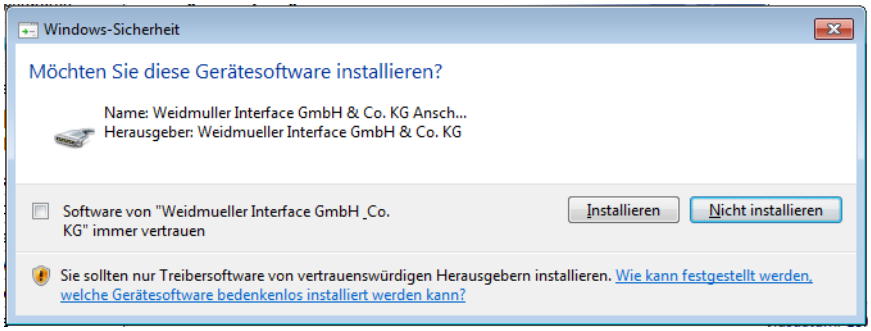
SCHRITT 9 Klicken Sie auf [Change], falls Sie den Zielordner ändern möchten. Klicken Sie danach auf [Next].


Weidmueller Power Monitor Manager - InstallShield Wizard
Destination Folder
Click Next to install to this folder, or click Change to install to a different folder.
Install Weidmueller Power Monitor Manager to:
C:\Program Files (x86)\Weidmueller\
Change...
InstallShield
< Back
Next >
Cancel

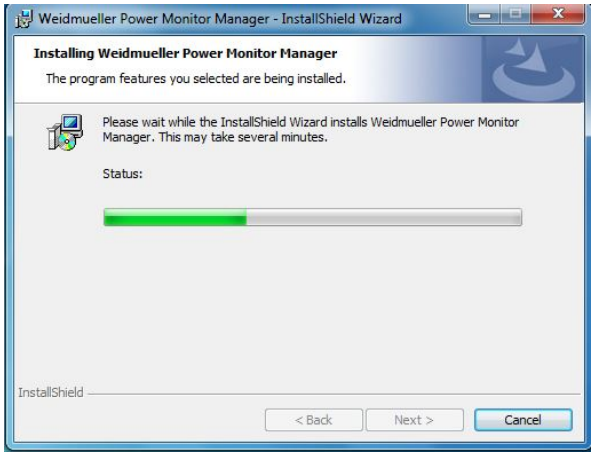
SCHRITT 10 Die Software wird nun installiert.


Weidmueller Power Monitor Manager - InstallShield Wizard
Preparing to Install...
Weidmueller Power Monitor Manager Setup is preparing the InstallShield Wizard, which will guide you through the program setup process. Please wait.
Extracting: Weidmueller Power Monitor Manager.msi
Cancel

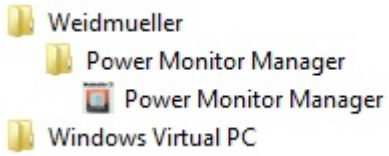
SCHRITT 11 Falls Ihr System fragt, ob Sie die Software installieren möchten, klicken Sie auf [Installieren].

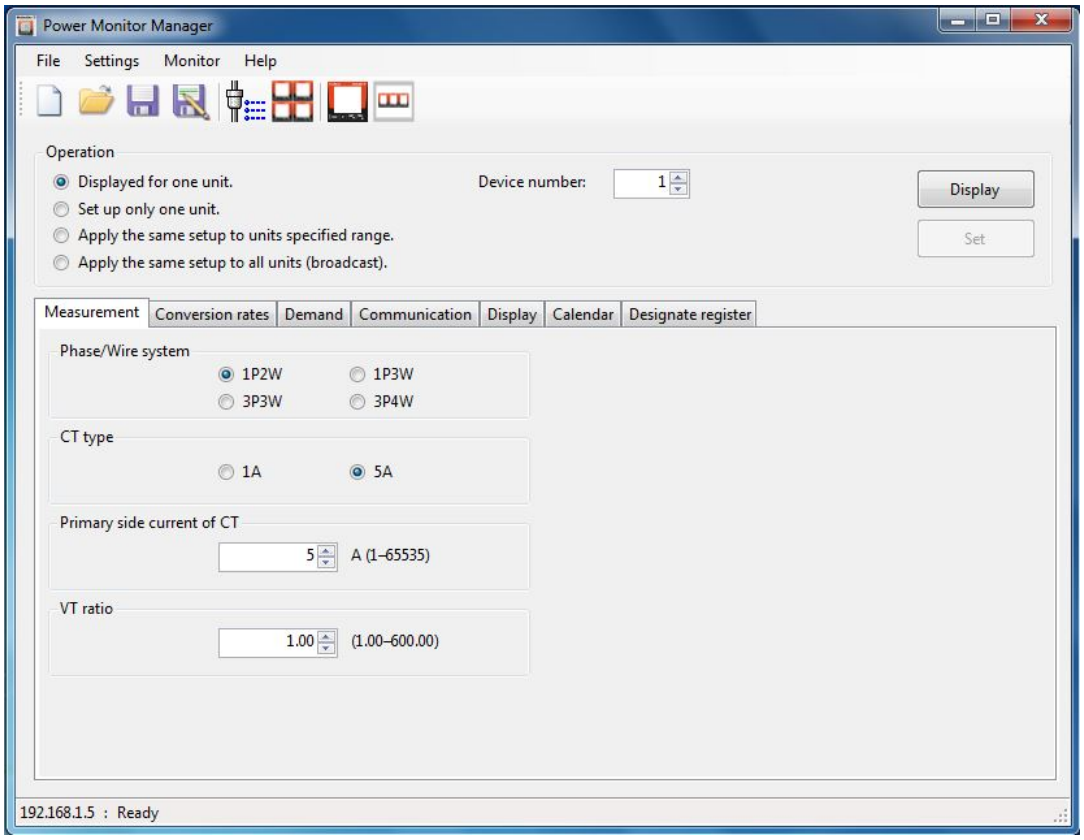

Windows-Sicherheit
Möchten Sie diese Gerätesoftware installieren?
Name: Weidmuller Interface GmbH & Co. KG Ansch...
Herausgeber: Weidmueller Interface GmbH & Co. KG
Software von "Weidmueller Interface GmbH _Co. KG" immer vertrauen
Installieren
Nicht installieren
Sie sollten nur Treibersoftware von vertrauenswürdigen Herausgebern installieren. Wie kann festgestellt werden, welche Gerätesoftware bedenkenlos installiert werden kann?

SCHRITT 12 Warten Sie, bis die Installation abgeschlossen ist.


Weidmueller Power Monitor Manager - InstallShield Wizard
Installing Weidmueller Power Monitor Manager
The program features you selected are being installed.
Please wait while the InstallShield Wizard installs Weidmueller Power Monitor Manager. This may take several minutes.
Status:
InstallShield
< Back
Next >
Cancel

SCHRITT 13 Starten Sie die Applikation. Sie finden diese im Windows Start Menü <Alle Programme> <Weidmueller>.



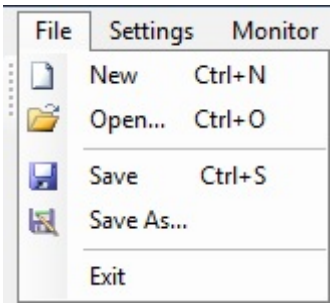


4. Symbolleisten

Dieses Kapitel beschreibt die Funktion der Symbolleisten und Schaltflächen.

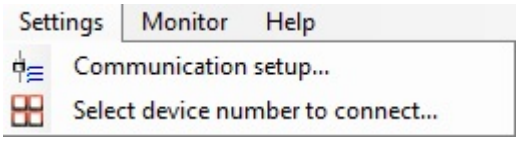
4.1 File

Das „File“-Menü ermöglicht Ihnen alle grundlegenden Aktionen, um Dateien zu erstellen, zu öffnen und zu speichern.



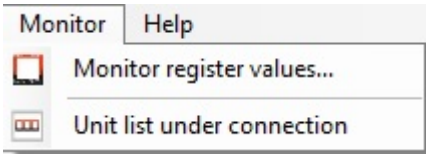
4.2 Settings

In diesem Menü können Sie Ihre bevorzugten Kommunikationseinstellungen sowie die Anzahl der zu verbindenden Geräte bestimmen.



4.3 Monitor

Das „Monitor“-Menü zeigt Ihnen die aktuellen Messwerte und den Status der verbundenen Geräte an. Außerdem können Sie Ihre Messwerte speichern.



4.4 Help

Sie finden hier die aktuelle Version der Software sowie die Lizenzbedingungen.

4.4.1 New

Erzeugt eine neue Datei mit den Standard-Parametern.

4.4.2 Open

Öffnet eine gespeicherte Datei mit den gespeicherten Parametern.

4.4.3 Save

Speichert die aktuellen Parameter.

4.4.4 Save as

Speichert die aktuellen Parameter in einer neuen „.wmpm“ Datei im gewünschten Ordnerpfad.

4.4.5 Communication setup

Öffnet das Fenster, in dem die Kommunikationseinstellungen gespeichert sind und angepasst werden können.

4.4.6 Select device number to connect

Öffnet das Fenster, in dem die maximale Anzahl zu verbindender Geräte angezeigt wird.

4.4.7 Monitor register values

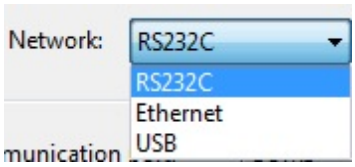
Überwacht die aktuellen Werte der ausgewählten Variablen und zeichnet diese in einer „.csv“ Datei auf.

4.4.8 Unit list under connection

Zeigt den Verbindungsstatus der verbundenen Geräte an.

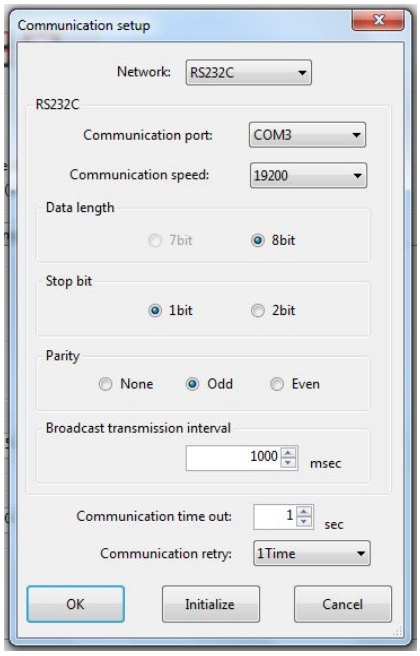
5. Verbindung / Kommunikation

Die Kommunikation mit dem Power Monitor kann über drei unterschiedliche Verbindungsarten aufgenommen werden: RS232C, Ethernet oder USB.

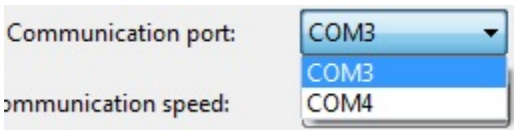


5.1 RS232C Kommunikation

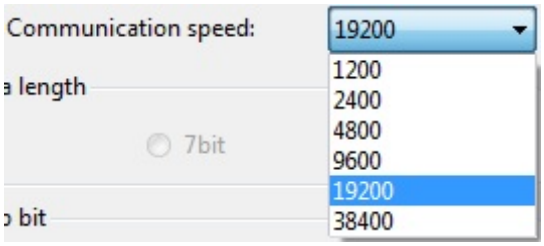
Indem Sie auf [Communication setup] klicken und RS232C als „Network“ auswählen, öffnet sich das nachfolgende Fenster. Sie haben dort mehrere Möglichkeiten, um Ihren Kommunikationstyp zu konfigurieren. Für den RSC232C ist es notwendig, einen Serial/Ethernet-Konverter wie den Weidmüller „IE-CS-2TX-1RS232/485“ installiert zu haben. Wenn Sie das bereits getan haben, konfigurieren Sie ihn, wie es in der Power Monitor Kurzanleitung (Dokumentnummer 1502970000) beschrieben ist.



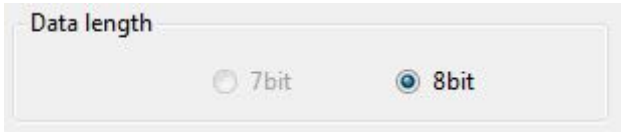
Wählen Sie den konfigurierten Kommunikations-Port.



Wählen Sie die konfigurierte Kommunikationsgeschwindigkeit (Baudrate).



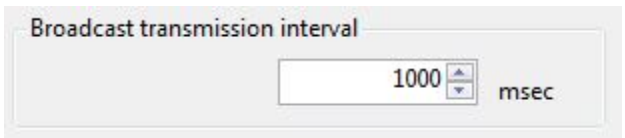
Wählen Sie die Datenlänge.



Das zuvor konfigurierte Stoppbit kann hier ausgewählt werden.

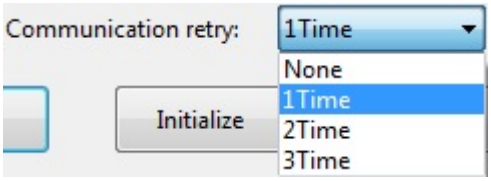
Genau wie das Stoppbit, kann hier auch das Paritätsbit so gewählt werden, wie es mit dem Serial/Ethernet-Konverter konfiguriert wurde.

Stellen Sie das Intervall für die Broadcast-Übertragung so ein, wie Sie es brauchen (Bereich: 0 bis 65535).

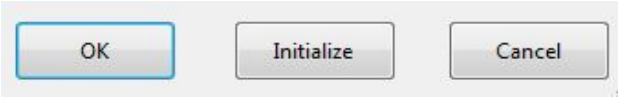


Wählen Sie die Dauer der Kommunikationsunterbrechung, bevor das System abbricht (Bereich: 1 bis 99).

Stellen Sie die Anzahl der Wiederholungsversuche im Falle einer Kommunikationsunterbrechung ein.



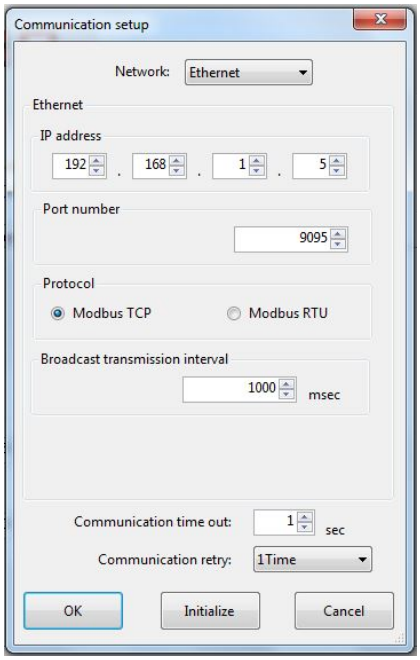
OK: Einstellungen übernehmen
Initialize: Einstellungen zurücksetzen
Cancel: Fortschritt abbrechen



5.2 Ethernet Kommunikation

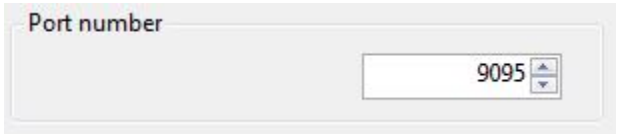
Wenn die Kommunikation statt über RS232C lieber über Ethernet stattfinden soll, sollten Sie zunächst sicherstellen, dass der Power Monitor sich im selben Netzwerk wie Ihr Computer befindet oder zumindest per RJ45-Kabel direkt mit ihm verbunden ist.

Wenn Sie im „Communication setup“-Menü auf [Ethernet] klicken, wird das Fenster anders aussehen. Allerdings sind das Intervall für die Broadcast-Übertragung, die Kommunikations-Unterbrechung und die Einstellungen für die Wiederholungsversuche nach wie vor verfügbar und haben denselben Bereich wie in Kapitel 5.1 "RS232C Kommunikation" erläutert..

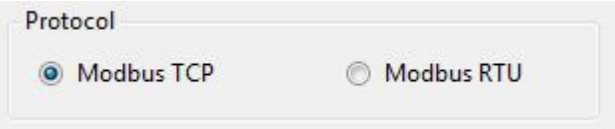


Wählen Sie hier die IP-Adresse, die Ihr Power Monitor haben soll (Bereich für jedes Fenster: 0 bis 255).

Stellen Sie die Port-Nummer für Ihren Power Monitor ein (Bereich: 0 bis 65535).



Wählen Sie das gewünschte Kommunikationsprotokoll.

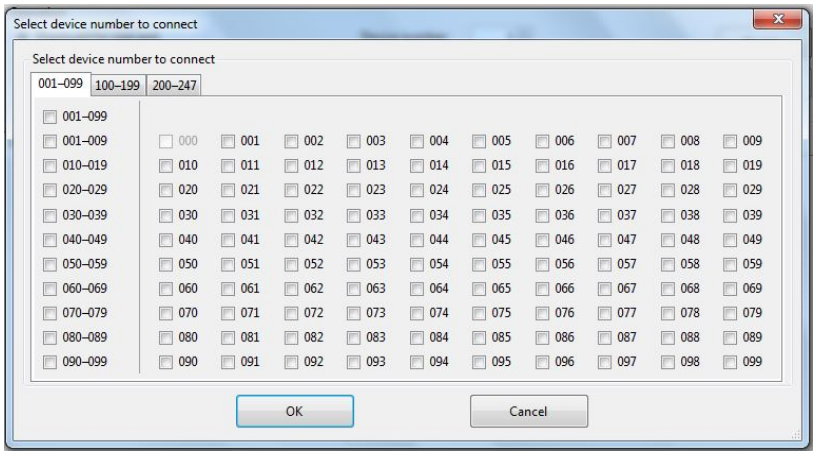


5.3 Kommunikationserfolg

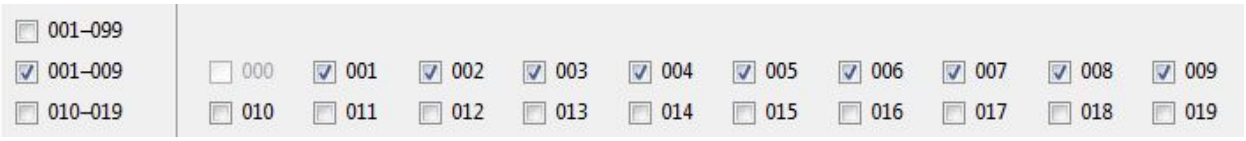
Nachdem Sie die Kommunikationseinstellungen abgeschlossen haben, testen Sie die Kommunikation durch Klicken auf [Display]. Wenn die Kommunikation erfolgreich war, wird der nachfolgende Text an der unteren linken Seite erscheinen.

6. Auswahl der Gerätenummern

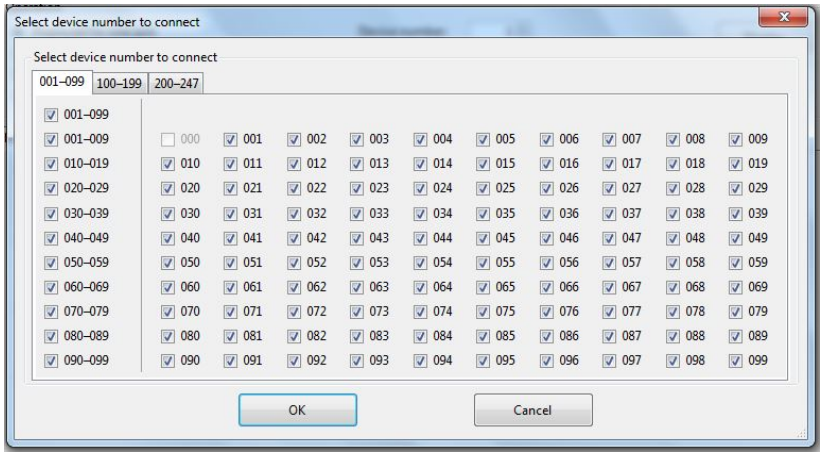
Durch Klicken auf [Select device number to connect] gelangen Sie zum nachfolgenden Fenster. Keines der Kontrollkästchen ist aktiviert.



Sie können darauf klicken, um einzelne Nummern zu aktivieren. Oder sie klicken auf die Kontrollkästchen auf der linken Seite. Daraus ergeben sich unterschiedliche Möglichkeiten: Sie können jeweils zehn Geräte auswählen oder, durch Klick auf das oberste Kästchen, alle zusammen.



Klicken Sie auf [OK], wenn Sie Ihre Einstellungen übernehmen wollen, oder klicken Sie auf [Cancel], wenn Sie sie zurücksetzen wollen.



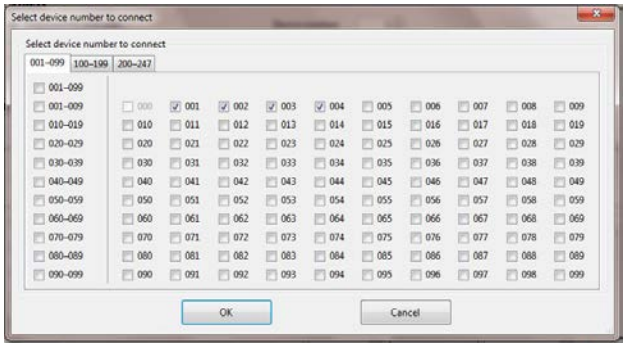
	HINWEIS
	Diese Option steht nicht für eine Verbindung über die USB-Schnittstelle zur Verfügung.

7. Verbindungsliste

	HINWEIS
	Um dieses Werkzeug zu demonstrieren, wurde ein Power Monitor via RS232 Connection verbunden (siehe Kapitel 5.1 „RS232C Kommunikation“). Obwohl nur ein Power Monitor angeschlossen wurde, wurde der Test für eine Kommunikation mit 4 Geräten eingerichtet. Dies zeigt den Prozess der Überprüfung der Verbindung und die endgültige Statusanzeige.

SCHRITT 1

Wählen Sie die Nummer der Geräte, die Sie anschließen möchten (siehe Kapitel 6 "Auswahl der Gerätenummern").

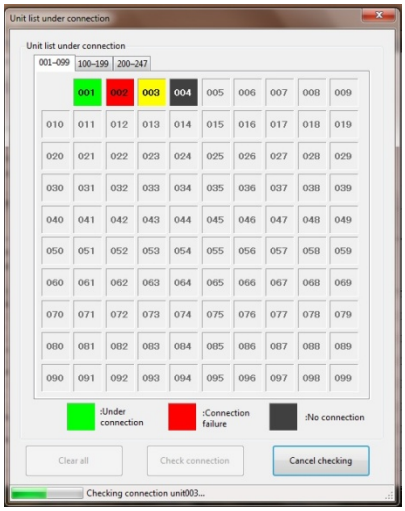


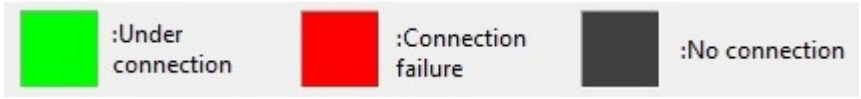
SCHRITT 2

Öffnen Sie das [Unit list under connection]-Menü. Sie sehen nun die Nummern der ausgewählten Geräte, in dunkelgrau hinterlegt. Das bedeutet, dass es keine Verbindung gibt, oder in diesem Fall, dass die Verbindung noch nicht hergestellt wurde.

SCHRITT 3

Durch Klick auf [Check connection] wird das System automatisch mit der Prüfung beginnen. Auf dem Bild links sehen Sie die vier Phasen während der Verbindung. Gerät 1 (welches gerade verbunden ist) wird als „under connection” (verbunden) angezeigt, Gerät 2 als „Connection failure“ (Verbindungsfehler). Gerät 3 wird aktuell getestet, weswegen der Hintergrund gelb ist und Gerät 4 wurde noch nicht geprüft. Nach dem Test ist nur ein Gerät grün hinterlegt, die übrigen rot.

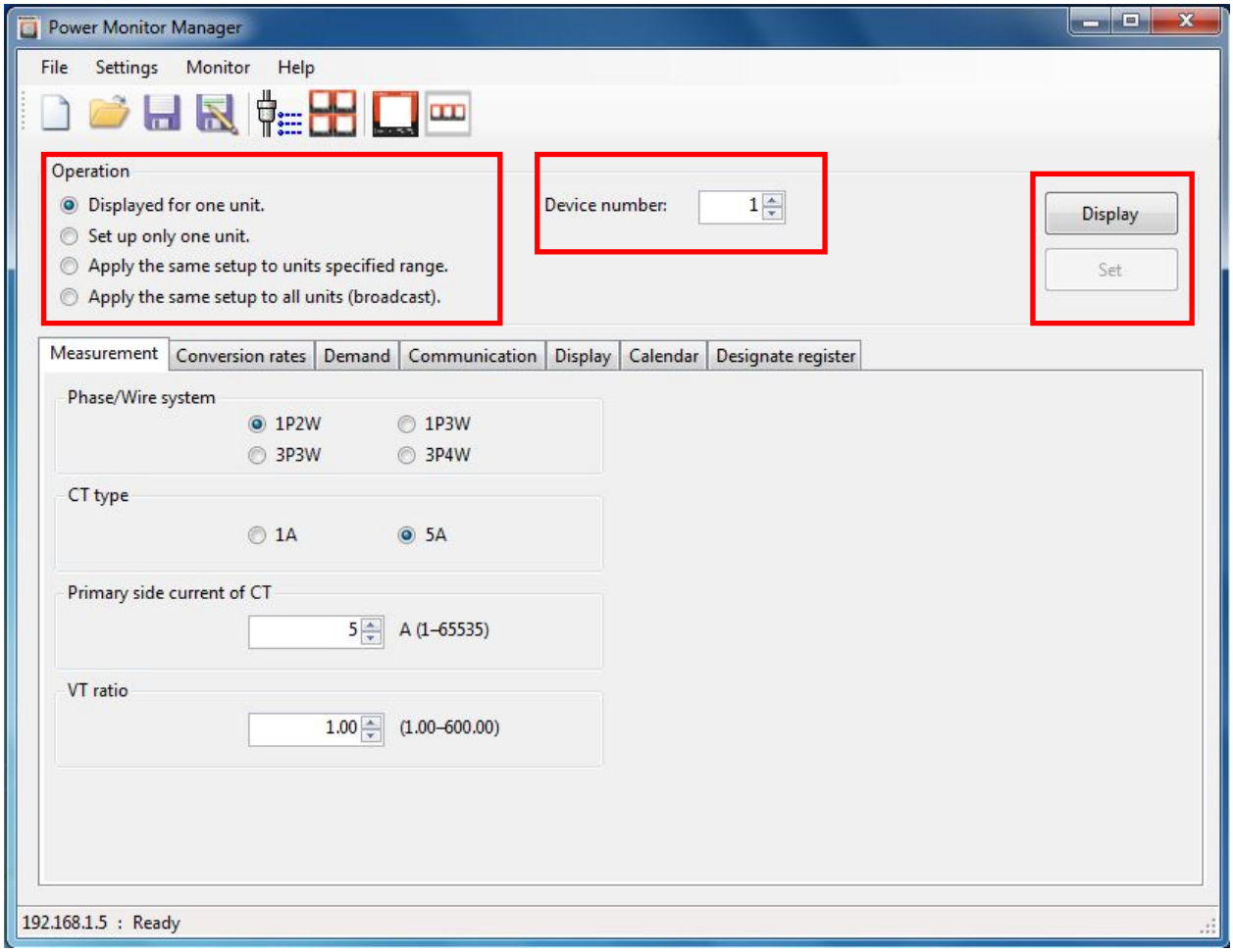




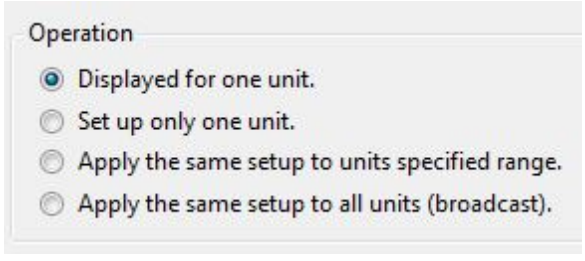
HINWEIS

Diese Option steht nicht für eine Verbindung über die USB-Schnittstelle zur Verfügung.

8. Einstellungen

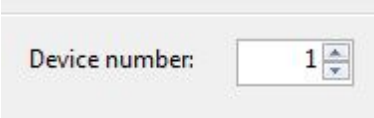


Wählen Sie die Operation aus, die Sie mit Ihrem Gerät durchführen möchten.
[Displayed for one unit] zeigt die aktuellen Einstellungen für ein Gerät an.
[Set up only one unit] übernimmt die aktuelle Konfiguration für das ausgewählte Gerät.
[Apply the same setup to all units] übernimmt die aktuelle Konfiguration für alle angeschlossenen Geräte.


Operation
Displayed for one unit.
Set up only one unit.
Apply the same setup to units specified range.
Apply the same setup to all units (broadcast).

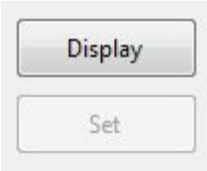
Durch Klick auf [Apply the same setup to units specified range] können Sie den Bereich der Geräte wählen, für die Sie dieselbe Konfiguration einstellen wollen.

Wählen Sie die Gerätenummer (Device number), für die Sie die Daten einstellen oder anzeigen wollen.



Wenn sie [Displayed for one unit] ausgewählt haben, erscheint das Feld [Display]. Sie können nun die Einstellungen der aktuell ausgewählten Gerätenummer sehen.

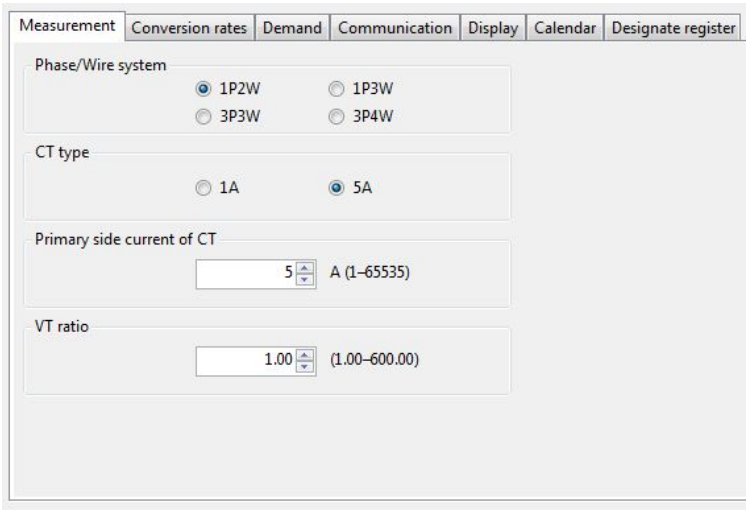
[Set] ist für jeden anderen Betrieb auswählbar und überträgt Ihre ausgewählte Konfiguration auf den Power Monitor.



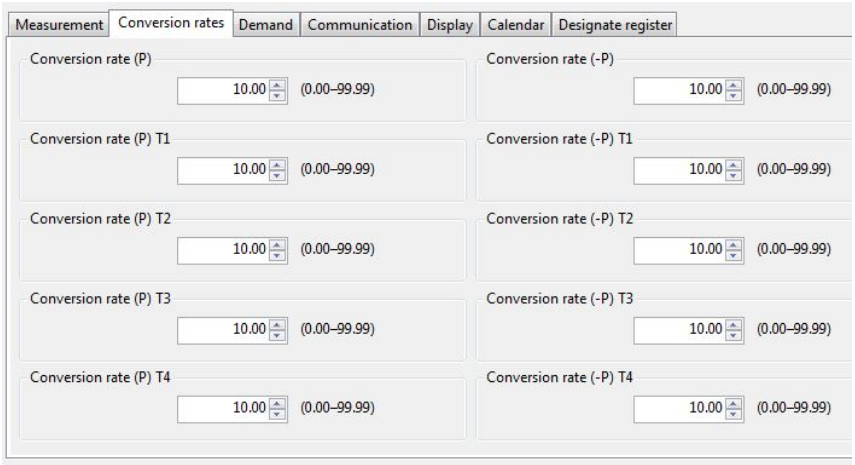
Im [Measurement]-Menü können sie die äußeren Anschlüsse wählen, welche mit dem Power Monitor verbunden sind.

Das „Phase/Wire system“, mit welchem Sie den Power Monitor angeschlossen haben, kann im Power Monitor Handbuch nachgeschlagen werden.

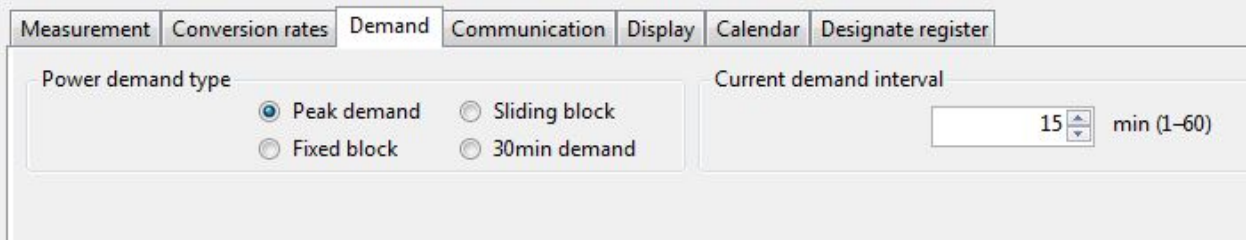
Die Strom- und Spannungswandlerinformationen können Sie direkt auf Ihren verwendeten Produkten erkennen.

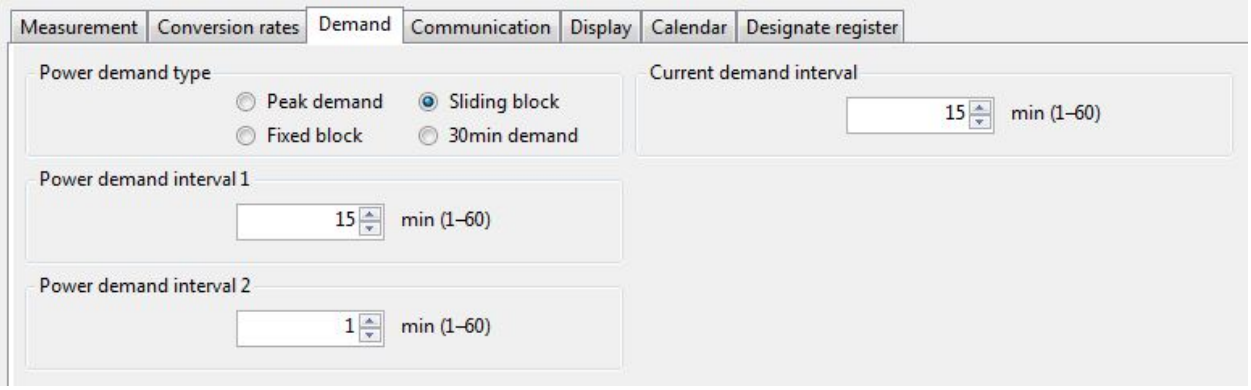


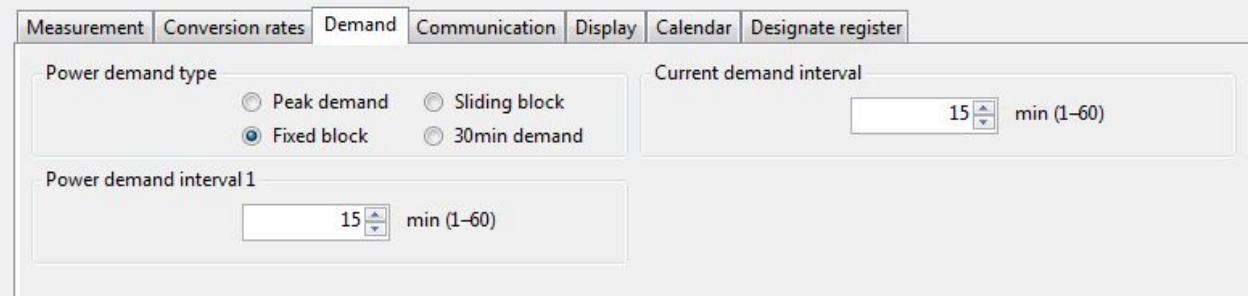
Stellen Sie die „Conversion rate“ für bezogene Wirkenergie (P) und gelieferte Wirkenergie (-P) auf 1kWh ein. Sie können insgesamt 5 Umwandlungsraten für die verschiedenen Zeitzonen auswählen: für all-time, time zone 1, time zone 2, time zone 3 und time zone 4. Wenn das Programm nicht eingestellt ist, wird die Umwandlungsrate für all-time genutzt. Wenn Sie mehr Zeitprogramme einstellen, werden die Umwandlungsraten für die Zeitzonen 1, 2, 3 und 4 verwendet, aber nicht die für all-time.

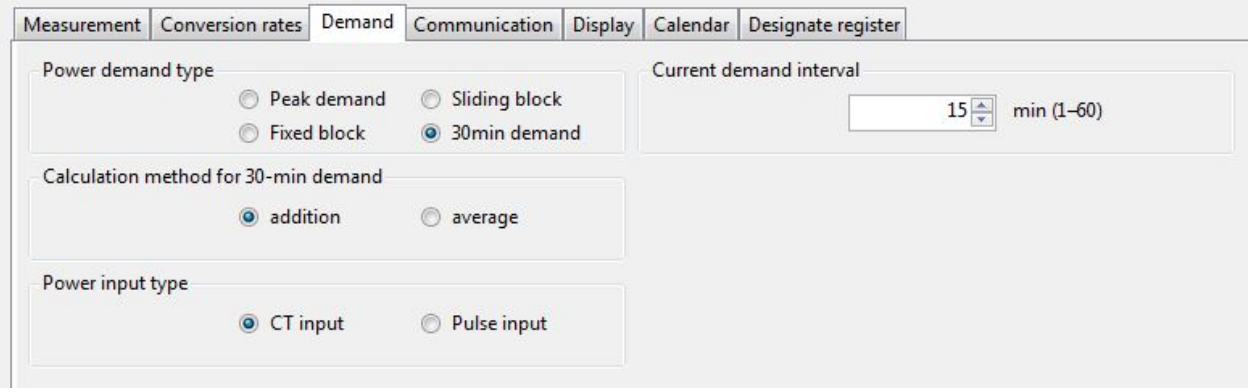


Im Menü [Demand] gibt es diverse Untermenüs, abhängig davon, welchen „Power demand type“ Sie wählen. Wählen Sie [Peak demand], haben Sie nur das Feld „Current demand interval“, welches es in allen anderen Untermenüs auch gibt. Durch Klick auf [Sliding block] öffnen sich zwei neue Fenster, „Power demand interval 1“ und „Power demand interval 2“. Ersteres erscheint auch, wenn Sie [Fixed block] auswählen. Im [30 min demand]-Menü können Sie Ihre Berechungsmethode und den Typ der Eingangsspannung wählen (nach IEC 61557-12).

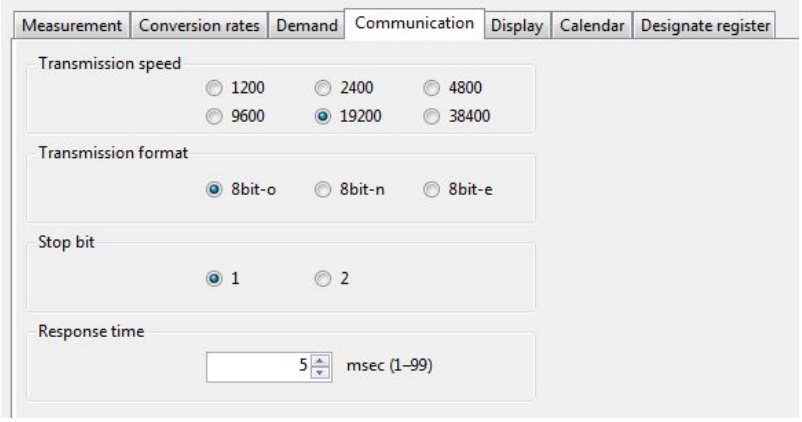




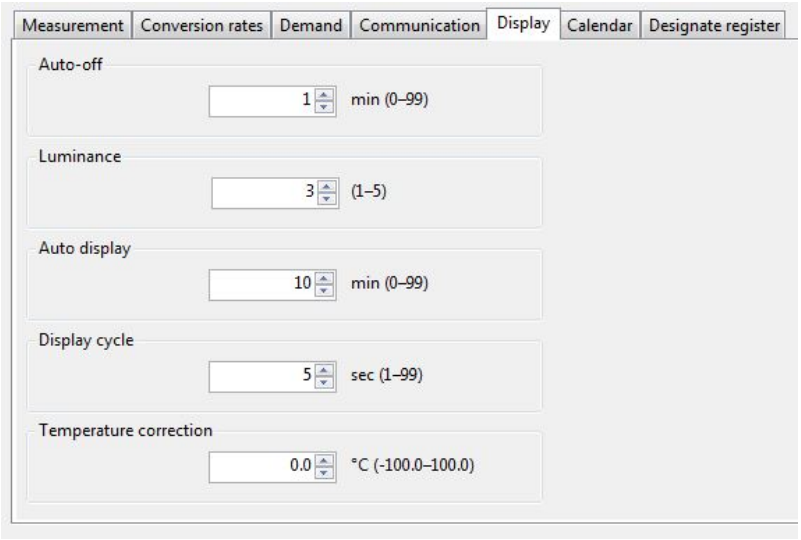




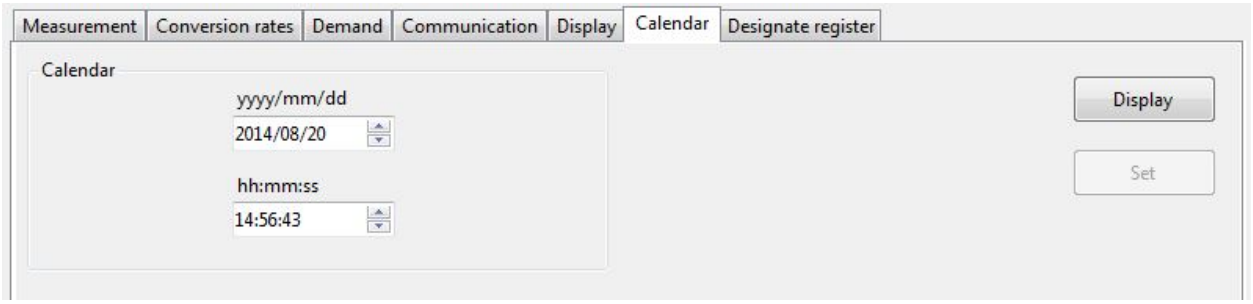
Stellen Sie im [Communication]-Menü die Kommunikationseinstellungen Ihres Power Monitor ein. Diese müssen dieselben sein wie auf Ihrem S/E-Konverter oder in Ihren Kommunikations-einstellungen der Power Monitor Manager Software. Das „Transmission format“ stellt die Datenlänge und das Paritätsbit ein (-o für ungerade, -n für nicht und –e für gerade).



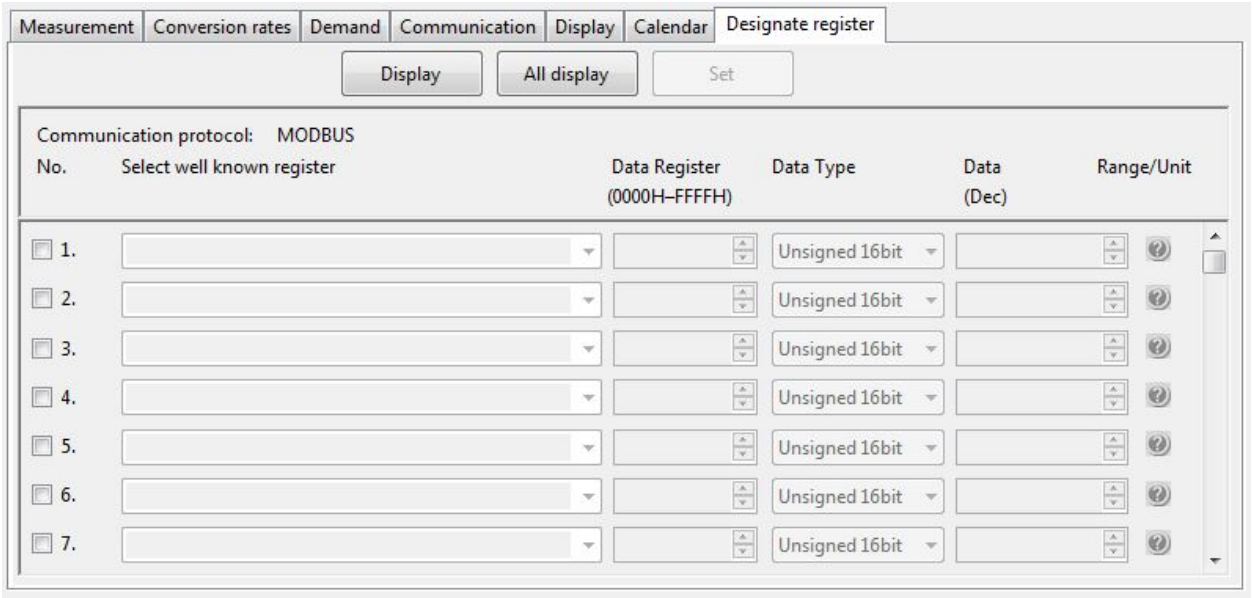
Im [Display]-Menü können Sie die Einstellungen für den Bildschirm Ihres Power Monitor anzeigen und einstellen. „Auto off“ zeigt an, wie lange der Bildschirm beleuchtet ist. „Luminance“ zeigt die Helligkeit des Bildschirms an, „Auto display“ stellt die Zeitspanne ein, nach der ein Menüwechsel des Power Monitors stattfindet und „Display cycle“ gibt an, wie lange das nächste Menü im automatischen Modus angezeigt wird.

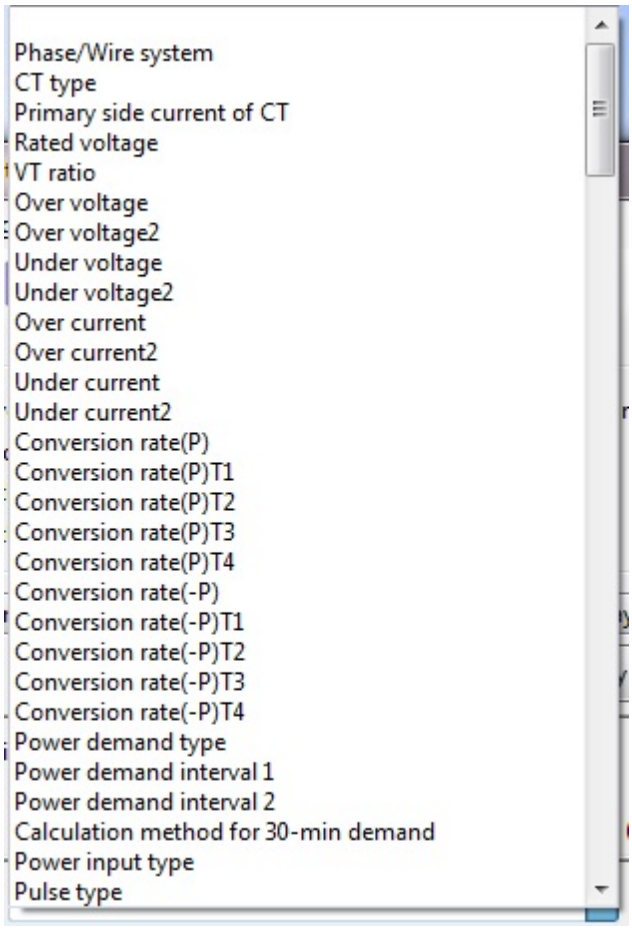


Im [Calendar]-Menü können Sie den Kalender Ihres Power Monitor anzeigen und einstellen. Ein Klick auf [Display] zeigt Ihnen die aktuell eingestellte Zeit auf dem Power Monitor an, ein Klick auf [Set] wird Ihre Einstellungen auf den Power Monitor übertragen.

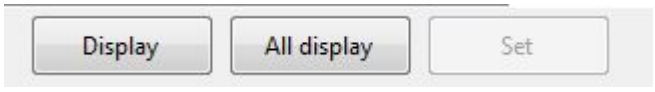


Das [Designate Register]-Menü zeigt Ihnen die Datenregister, den Datentyp und die Daten der vorherigen Menü-Einstellungen. Um eines auszuwählen, müssen Sie zunächst auf das Kontrollkästchen einer Nummer klicken. Dann können in der Spalte „Select well known register“ einen Parameter wählen. Das „Data Register“ wird automatisch angezeigt. Wählen Sie anschließend einen „Data Typ“ und klicken Sie auf [Display]. Wenn Sie einen Überblick über alle Parameter möchten, klicken Sie auf [All display].




Phase/Wire system
CT type
Primary side current of CT
Rated voltage
VT ratio
Over voltage
Over voltage2
Under voltage
Under voltage2
Over current
Over current2
Under current
Under current2
Conversion rate(P)
Conversion rate(P)T1
Conversion rate(P)T2
Conversion rate(P)T3
Conversion rate(P)T4
Conversion rate(-P)
Conversion rate(-P)T1
Conversion rate(-P)T2
Conversion rate(-P)T3
Conversion rate(-P)T4
Power demand type
Power demand interval 1
Power demand interval 2
Calculation method for 30-min demand
Power input type
Pulse type

Unsigned 16bit
Signed 16bit
Unsigned 16bit
Signed 32bit
Unsigned 32bit
HEX4 digits
HEX8 digits

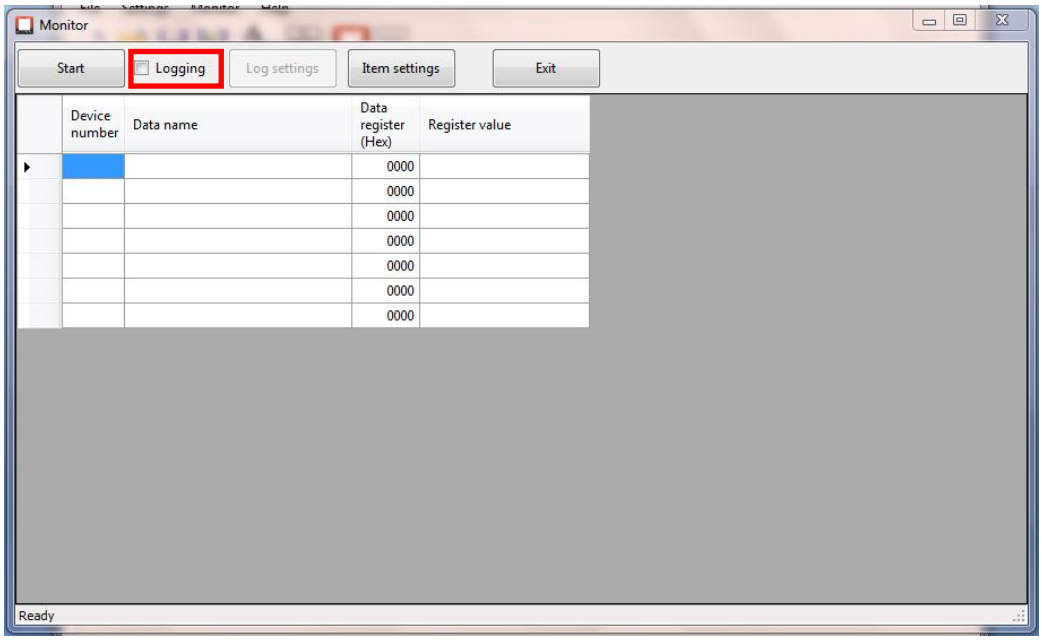

Display
All display
Set

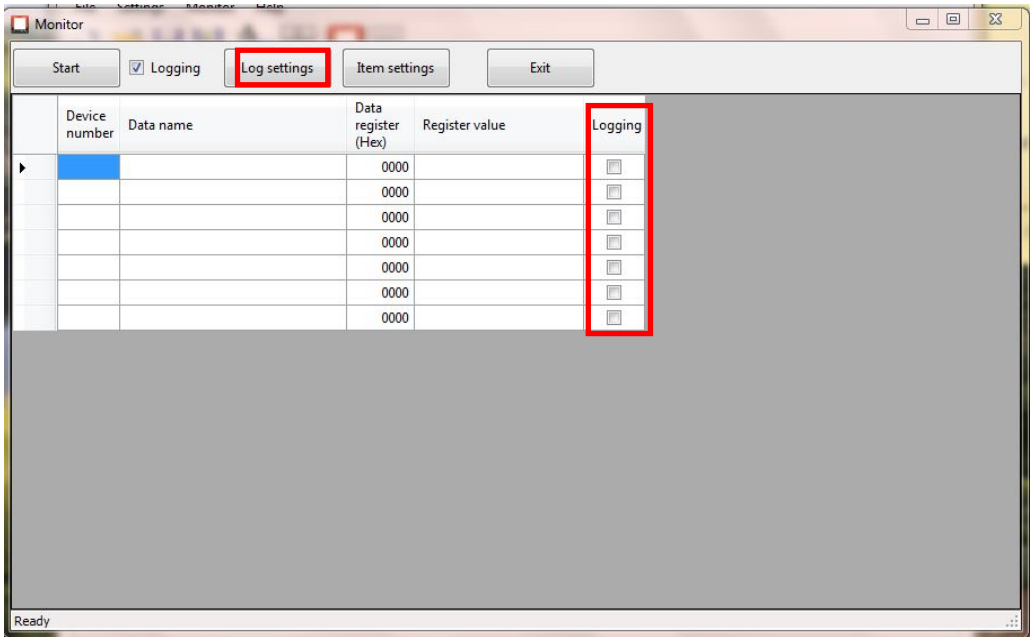
9. Datenüberwachung / Datenaufzeichnung

Dieses Kapitel beschreibt, wie Sie die Daten, die sie brauchen, überwachen und aufzeichnen können.

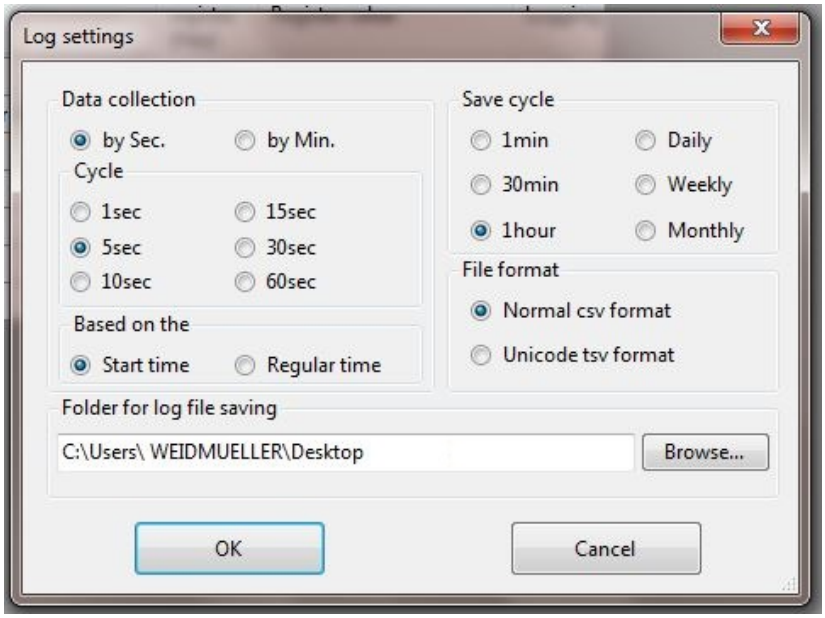
SCHRITT 1

Wenn Sie auf [Monitor register values] klicken, erscheint das nachfolgende Fenster. Möchten Sie die Daten nur überwachen, fahren sie mit Schritt 3 fort. Andernfalls setzen Sie einen Haken in das Kontrollkästchen [Logging]. Dadurch wird die Tabelle um eine neue Spalte erweitert und das Feld [Log settings] wird nun wählbar sein.



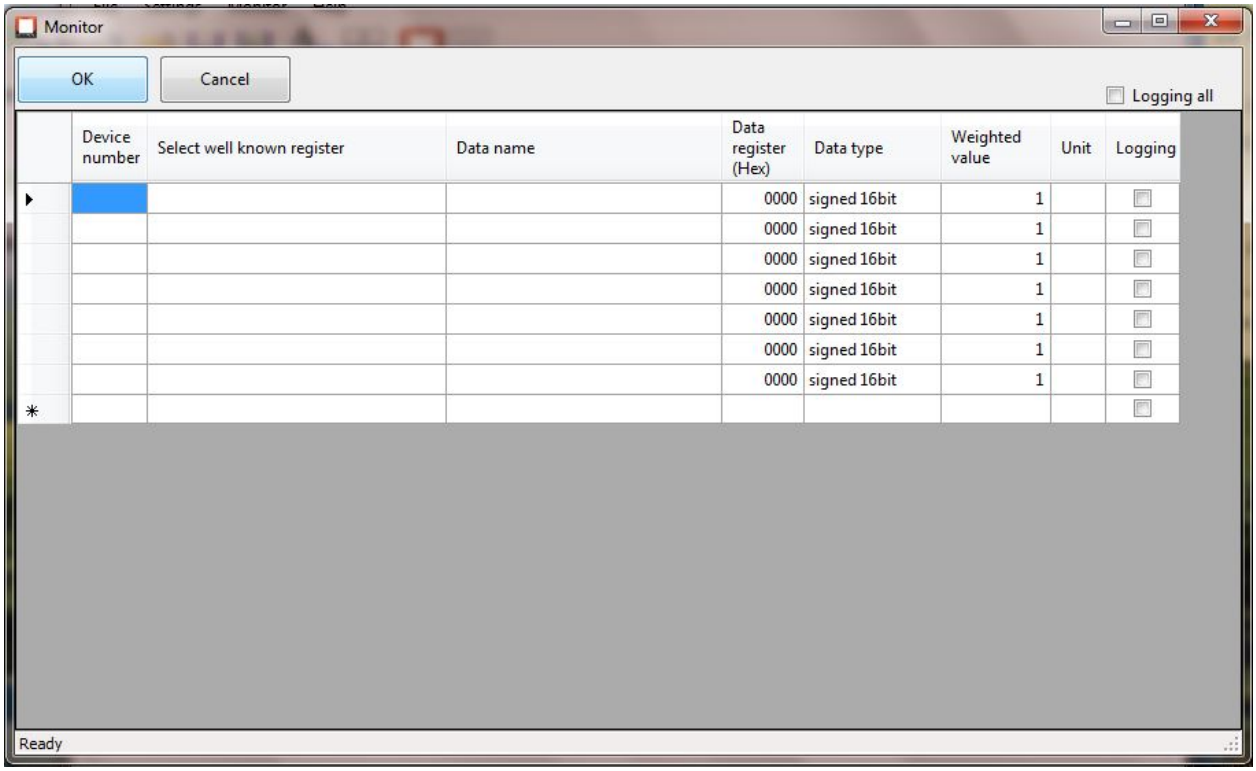


SCHRITT 2 Klicken Sie auf [Log settings] und wählen Sie Ihre bevorzugten Einstellungen.

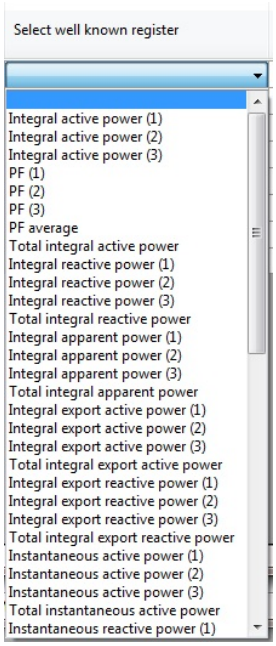


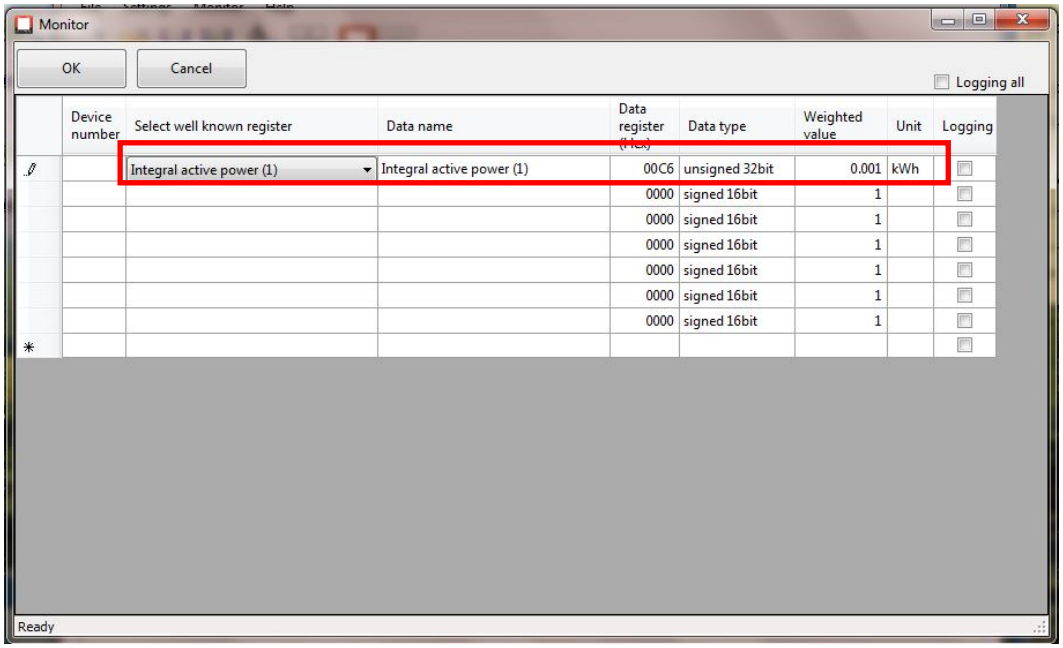
In den Menüs „Data collection” und „Cycle” können Sie den Zeitabstand zwischen zwei Messungen wählen.
Mit „Save cycle“ bestimmen Sie den Zeitabstand zwischen zwei automatisch gespeicherten Dateien.
Mit „File format” entscheiden Sie, ob die Datei als „.csv“ oder als „.tsv“ Datei gespeichert wird.
Der Zielordner für Ihre Datei wird durch Klick auf [Browse] ausgewählt.

SCHRITT 3 Klicken Sie auf [Item settings], um die Werte auszuwählen, die Sie überwachen oder aufzeichnen möchten.

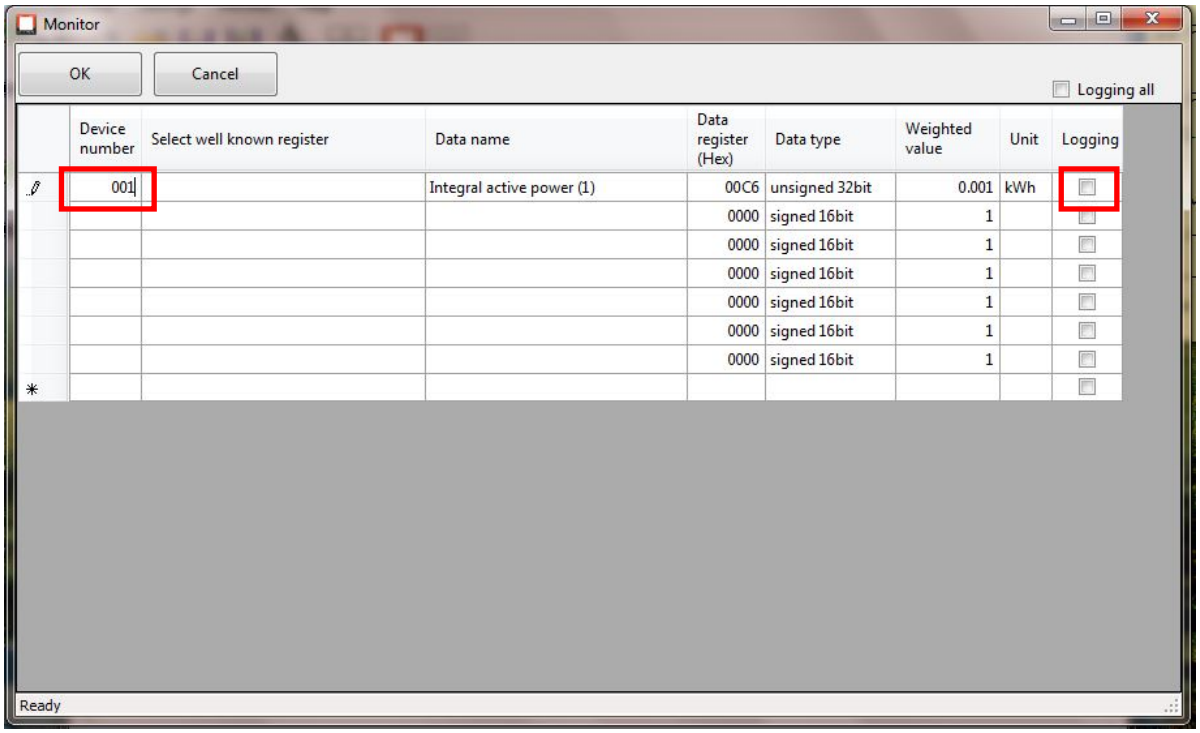


Die Spalte [Select well known register] öffnet ein Menü, indem Sie alle Parameter wählen können, die auf Ihrem Power Monitor angezeigt werden sollen. Nachdem Sie den „Data name“ ausgewählt haben, werden „Register“ und „Type“ automatisch von der Software angepasst. Das gleiche geschieht für „Value“ und „Unit“.


Select well known register
Integral active power (1)
Integral active power (2)
Integral active power (3)
PF (1)
PF (2)
PF (3)
PF average
Total integral active power
Integral reactive power (1)
Integral reactive power (2)
Integral reactive power (3)
Total integral reactive power
Integral apparent power (1)
Integral apparent power (2)
Integral apparent power (3)
Total integral apparent power
Integral export active power (1)
Integral export active power (2)
Integral export active power (3)
Total integral export active power
Integral export reactive power (1)
Integral export reactive power (2)
Integral export reactive power (3)
Total integral export reactive power
Instantaneous active power (1)
Instantaneous active power (2)
Instantaneous active power (3)
Total instantaneous active power
Instantaneous reactive power (1)



Die aktuellen Einstellungen sind noch nicht abgeschlossen. Sie müssen noch die Nummer des Geräts angeben, dessen Messwerte Sie überwachen/aufzeichnen wollen. Machen Sie dafür einen Doppelklick in das Feld unter „Device number“ und geben Sie die dreistellige Nummer ein. Wenn Sie die Messwerte aufzeichnen wollen, müssen Sie außerdem das Kontrollkästchen [Logging] aktivieren.

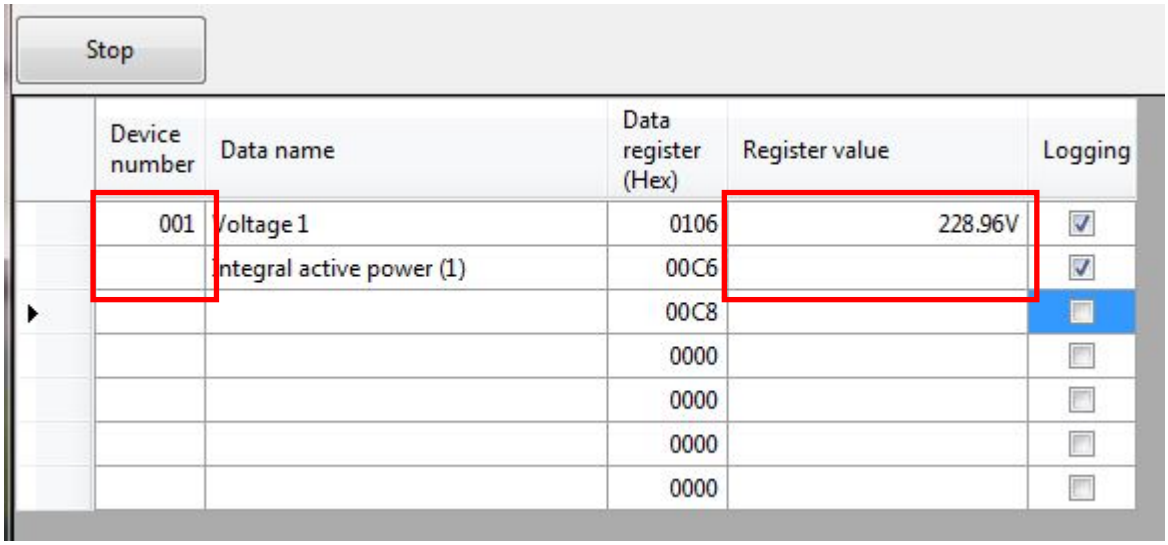


Wenn Sie den Namen der Daten ändern wollen, machen Sie einen Doppelklick in das Feld unter „Data name“. Nun können Sie Ihren gewünschten Namen für die Daten angeben. Wenn Sie weitere Parameter ändern wollen, fahren Sie wie beschrieben fort.

SCHRITT 4

Starten Sie die Messung durch Klick auf [Start]. Sie werden den Momentanwert der Messdaten in der Spalte „Register value“ sehen. Mit einem Klick auf [Stop] schließen Sie die Messung ab und speichern die Daten in der gewählten Datei.

Wie Sie unten sehen, führt das Nicht-Angeben der Gerätenummer dazu, dass der Wert nicht gemessen wird, obwohl [Logging] aktiviert ist.



10. Hilfe bei bekannten Problemen

10.1 Konfigurieren der RS232 Verbindung

Aktuell gibt es zwei bekannte Probleme bei der Verbindung via RS232.

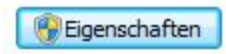
10.1.1 Die Schaltfläche Konfigurieren des S/E-Konverters

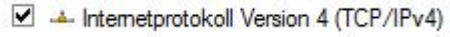
Das Handbuch für den S/E-Konverter gibt an, dass Sie den Konverter suchen und auf „Configure“ klicken sollen. Möglicherweise wird das nicht funktionieren und das System zeigt an, dass der Vorgang abgebrochen wurde. Dafür gibt es eine einfache Lösung.

Öffnen Sie die “Systemsteuerung” und klicken Sie auf [Netzwerk- und Freigabecenter].

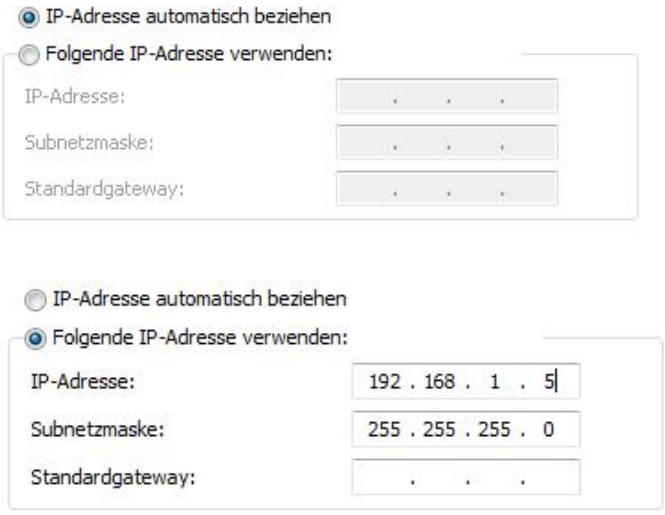
Anschließend klicken Sie auf [Adaptereinstellungen ändern].

Machen Sie einen Doppelklick auf Ihre aktive LAN-Verbindung. Klicken Sie auf [Eigenschaften] und suchen Sie nach [Internetprotokoll Version 4 (TCP/IPv4)]. Doppelklicken Sie darauf und bestätigen Sie.





Das folgende Fenster wird angezeigt und „IP-Adresse automatisch beziehen“ ist markiert. Wählen Sie „Folgende IP-Adresse verwenden“ und geben Sie die IP-Adresse 192.168.0.X ein (ersetzen Sie das X durch eine beliebige Zahl zwischen 0 und 255).

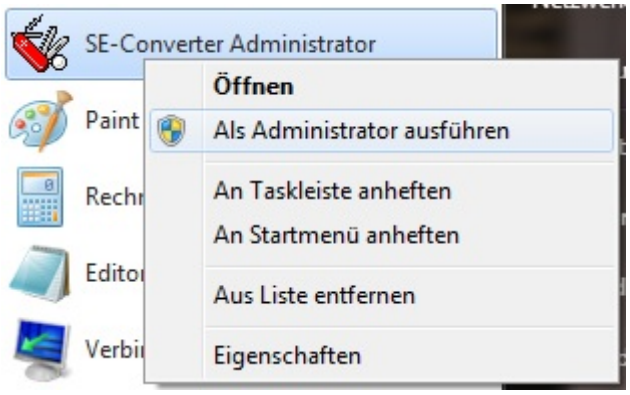


Nun sollten Sie Ihren Power Monitor konfigurieren können.

10.1.2 Sie haben nicht die Rechte, um diesen Port zu ändern

Es kann vorkommen, dass die Applikation beim letzten Schritt der Konfiguration des S/E-Konverters sagt, dass Sie nicht die Rechte besitzen, um diesen Port zu ändern. Eine einfache Lösung für dieses Problem folgt.

Öffnen Sie das Start-Menü und suchen Sie nach dem S/E-Konverter Administrator. Nun klicken Sie mit der rechten Maustaste darauf und wählen [Als Administrator ausführen]. Danach sollte es funktionieren.



10.2 Nicht genügend Systemressourcen

Die Lösung für dieses Problem ist lediglich, Ihren Computer neu zu starten. Danach sollte es funktionieren.

11. Literaturverzeichnis

1. Weidmüller Interface (2014). "Power Monitor 51A – Handbuch"
   Verfügbar auf www.weidmueller.com.
2. Weidmüller Interface (2014). "Power Monitor/Power Monitor 51A – Kurzanleitung zur Einrichtung einer Verbindung mit den Power Monitor Geräten über den Weidmüller Serial/Ethernet-Konverter"
   Verfügbar auf www.weidmueller.com

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